Secret

Interagency Intelligence Memorandum

The Arab-Israeli Handbook

Secret
September 1973

Copy 1

[redacted] SECRET

THE ARAB-ISRAELI HANDBOOK

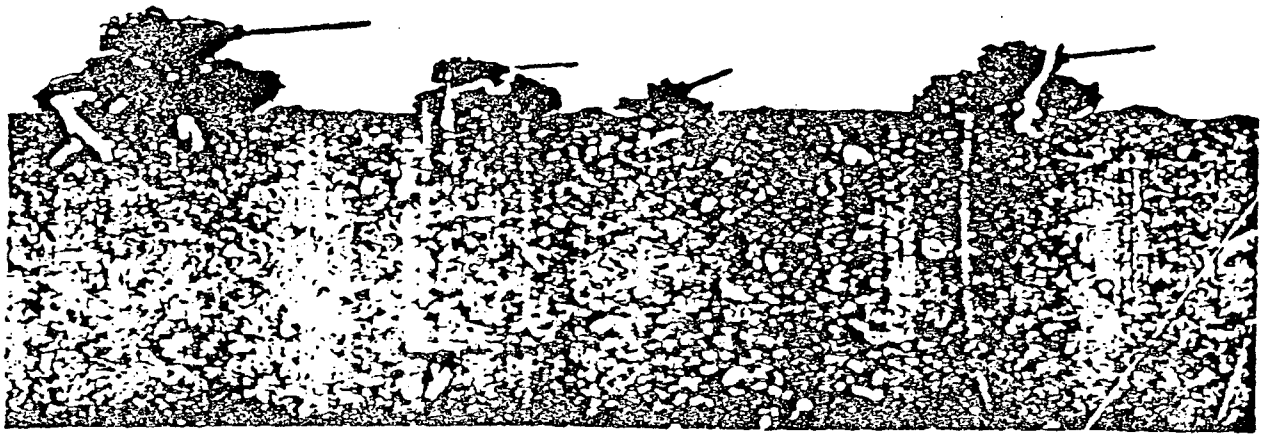


TABLE OF CONTENTS

	Page
I. Political Situation and Developments	1
A. The Postwar Situation	1
1. Political Developments	1
2. Attempts to Resolve the Impasse	5
3. The Occupied Territories	6
4. Refugees	8
5. Palestine Liberation Groups (Fedayeen)	9
(Figure I. Palestine Liberation Organization)	11
(Figure II. Palestine Liberation Army)	12
B. The Soviet Presence	12
II. Military Situation	17
A. General	17
1. Ground Forces	17
2. Naval Forces	18
3. Air Forces and Air Defense Forces	19
B. Israel	20
1. Ground Forces	20
2. Navy	22
3. Air and Air Defense Forces	24

Page

C. Arab States 25
1. Egypt 25
a. Ground Forces 25
b. Navy 27
c. Air Force 28
d. Air Defense Force 30
2. Syria 31
a. Ground Forces 31
b. Navy 33
c. Air and Air Defense Force 34
3. Iraq 36
a. Ground Forces 36
b. Navy 37
c. Air and Air Defense 38
4. Jordan 39
a. Ground Force 39
b. Navy (Coast Guard) 40
c. Air Force 40
5. Lebanon 41
a. Ground Force 41
b. Navy 42
c. Air and Air Defense Force 43

III. Advanced Weapons Development 45
A. Israel 45
1. Missiles 45
2. Nuclear 45
(Figure III. Israel "Jericho" Missile) 46
3. Chemical and Biological 47
B. Egypt 47
1. Missiles 47
2. Nuclear 48
3. Chemical and Biological 48
C. Syria 48
1. Chemical and Biological 48
D. Iraq 49
1. Chemical and Biological 49

SUPPLEMENT

Page

I. Military Aid from Communist Countries 51
A. General 51
B. Egypt 51
C. Syria 54
D. Iraq 55

	Page
II. Transportation and Production	59
A. Transportation	59
B. Domestic Arms Production	59
1. Israel	59
2. Egypt	61
3. Syria	61
III. The Soviet Mediterranean Squadron	63

TABLES

	Page
I. Selected Armaments and Forces, Arab Countries and Israel	64
II. Strength of Forces Deployed in Vicinity of Israel-Held Borders	66
III. Total Strength of Arab Ground Forces	66
IV. Comparison of Opposing Forces in Four Wars	67
V. Losses in Arab-Israel Wars	67
VI. Estimated Future Military Assistance to Egypt and Syria from Other Arab States (Ground)	68
VII. Estimated Future Military Assistance to Egypt and Syria from Other Arab States (Air)	69

MAPS

	Page
I. Israel and Occupied Territories	71
II. Disposition of Major Active Ground Forces	73
III. Arab and Israeli Air Forces	75
IV. Naval Deployment	77
V. SAM Sites in Egypt	79
VI. SAM Sites in Syria	81
VII. Egypt-Israel Agreement, September 1975	83
VIII. Golan Disengagement Zone	85
IX. Israeli Settlements in Gaza and Sinai	87
X. Israeli Settlements on the Golan Heights	89
XI. Israeli Settlements on the West Bank	91
XII. Suez Canal	93
XIII. Bab al-Mandeb	95
XIV. Jerusalem Administration	97
XV. Gulf of Aqaba and Strait of Tiran	99
XIV. Palestine Partition Plan	99

GLOSSARY

Page

Performance Characteristics of Selected Arab and Israeli Military Equipment 101

I. Aircraft and Air Defense Equipment 103

II. Ground Equipment 139

III. Naval Equipment 155

REFERENCES 177

THE ARAB-ISRAELI HANDBOOK

I. POLITICAL SITUATION AND DEVELOPMENTS

A. The Postwar Situation

1. *Political Developments*

Political and diplomatic activity dominated the Middle East scene during the past year. Unlike the period immediately after the October 1973 war, the Arab oil threat played little or no direct role in developments. Moreover, no armed clashes marred the disengagement agreements that were worked out between Israel and Egypt and Syria under US auspices during the first half of 1974. There were, however, periods of heightened tensions on both fronts.

The most serious risk of renewed hostilities occurred in November 1974 as the mandate for the United Nations Disengagement Observer Force (UNDOF), monitoring the Syrian-Israeli agreement, neared its expiration date of November 29. Uncertainty about whether an extension would be agreed to by Syria, which was then threatening to react to Israeli attacks against the fedayeen in southern Lebanon, together with Israeli accusations that Syria was receiving quantities of Soviet arms far in excess of its holdings before the October 1973 war, raised tensions to dangerous levels. Soviet-instigated rumors, meanwhile, alleged that Israel planned to attack Syria on November 17.

A sudden visit to Damascus by UN Secretary General Waldheim underscored the concern that the situation along the Syrian-Israeli ceasefire line might deteriorate further, perhaps even precipitating a general conflict. Syria's 11th-hour acquiescence in renewing the UN presence on Golan for another six-month period eased the highly volatile situation and the threat of fighting receded.

The suspension of US efforts to bring about a second Egyptian-Israeli disengagement accord on March 22, 1975 was also followed by a period of increased anxiety over the possibility of another round of warfare. Any immediate danger of renewed fighting passed as prospects for further peaceful negotiations were viewed with guarded optimism.

Following the successful conclusion of interim agreements on both the Suez and Golan fronts in January and May 1974, the Arabs turned attention to the Palestinian aspect of an overall settlement. One of their basic tasks was to determine the nature of Palestinian participation in peace settlement efforts, including representation at a reconvened Geneva conference. Egyptian President

Sadat attempted to keep Jordan's King Husayn at least nominally in the picture by acknowledging him as spokesman for those Palestinians living on the East Bank of Jordan. This affirmation was made in a joint communique on July 18, 1974, at the end of Husayn's first visit to Egypt since Sadat had succeeded the late President Nasser in 1970. His move, however, intensified Palestine Liberation Organization (PLO) suspicions of Egyptian intentions and fears that Palestinian interests would be sacrificed. The strong Palestinian reaction persuaded Sadat to temper his support for Husayn and to return to the Algiers summit formula of November 1973 that stipulated the PLO as the "sole, legitimate representative of the Palestinian people." This position was enunciated in a series of mid-September meetings in Cairo, attended by Egyptian, Syrian, and PLO representatives.

The tripartite declaration regarding the PLO was once again strongly upheld by the Arab summit conference in Rabat at the end of October 1974 and was embodied in a resolution made unanimous by Husayn's adherence. Other important decisions then taken by Arab leaders aimed at further strengthening Arab solidarity by working toward a Jordanian-PLO rapprochement and pledging $2.35 billion to the confrontation states. Most of the financial assistance was to be provided for rearming Egypt and Syria ($1 billion each), but $50 million was also earmarked for the PLO and $300 million for Jordan.

Meanwhile, the PLO's position was also being enhanced by significant diplomatic successes outside the Middle East. As Egypt and Syria were cementing their ties with the PLO in Cairo, a concerted Arab effort at the UN succeeded in having the Palestinian question inscribed on the UN General Assembly agenda as a separate item for the first time. This strategy resulted in an unprecedented move on November 13, when PLO chairman Yasir Arafat became the first leader of a national liberation movement to address a plenary session of the General Assembly. Shortly thereafter, the PLO was accorded permanent observer status in the General Assembly. Moreover, it has obtained observer status in several of the UN's specialized agencies.

Events in Egypt revolved largely around its involvement in peace settlement efforts. Sadat committed himself deeply to pursuing the course of negotiations with Israel, his own national interests requiring the recovery of more Israeli-occupied territory in Sinai and an era of peace that would refocus government attention on economic needs. His willingness to work with the US troubled Egyptian relations with Syria to some extent, but particularly with Libya. Sadat's stand in the step-by-step negotiations that were suspended on March 22, 1975, however, seemed to enhance his popularity in the Arab world. At least for a time thereafter, Syria, Jordan, Saudi Arabia, and even many PLO elements were relieved that Egypt did not "sell out" the Arab cause. His March 29 speech before the Egyptian parliament was moderate in tone and indicated a willingness to continue exploring various paths to peace. It was most notable for Sadat's stated intention, for the first time, to reopen the Suez Canal on June 5, the eighth anniversary of the June 1967 war. But he also agreed to extend the mandate of the United Nations Emergency Force (UNEF) for three months beyond the April 24 expiration date.

In mid-July, charging that the Israelis were using the UNEF presence to maintain the status quo, Egypt announced that it would not extend the UNEF mandate. On 23 July, however, following an appeal by the UN Security Council, Egypt reversed its position and did agree to extend the mandate for another three months. Renewed momentum was injected into peace efforts shortly thereafter, resulting in the second Egyptian-Israeli disengagement agreement on September 1.

Syria finally dispelled the atmosphere of war hysteria prior to the expiration of UNDOF's first mandate period by agreeing in November 1974 to its continuation. President Asad apparently encountered some strong opposition within the Ba'th leadership to that decision and his position on peace settlement efforts. Because of those pressures, he was reluctant to associate Syria too closely with Egyptian actions. Although he realizes that Syria must have a fruitful relationship with Sadat in order not to be totally isolated, Asad, too, is basically mistrustful of Egypt's negotiating policy. Before Secretary Kissinger's departure for the Middle East in early March, Asad sent his foreign minister to several Arab states with a message cautioning against a unilateral Egyptian agreement with Israel that would forsake Syria, Jordan, and the PLO. That diplomatic initiative accompanied a Syrian proposal to form joint Syrian-PLO political and military commands. The PLO subsequently accepted the offer, but it is not clear what practical effect closer Syrian-PLO cooperation, if achieved, would have in either the political or military fields. To avoid, or minimize, any isolation Syria might be forced into by Egyptian peace moves, Asad also improved relations with King Husayn. Some military coordination with Jordan seems to have taken place, but the extent of Syrian-Jordanian cooperation may not be determined for some time.

Syria's other preoccupation concerned a running dispute with Iraq that deepened in March, ostensibly over Baghdad's charges that Syria had deliberately reduced the flow of Euphrates water. Intense Arab mediation efforts failed to resolve their differences, although Syria agreed in early June to release some of the waters. Meanwhile, each antagonist took punitive measures against the other and Syria virtually denuded its secondary defensive positions on the Golan Heights by moving sizeable forces to the vicinity of the Euphrates Dam complex. Damascus also announced in May 1975 that it would extend UNDOF's mandate for another six months, partly to reduce any threat from Israel while it feuded with Iraq and partly to demonstrate independence of action from Egypt, which had previously agreed to only a three-month extension.

Jordan relinquished, in effect, its claim to be the negotiating channel for recovery of West Bank territory as a result of its acceptance of the Rabat summit resolution on the PLO. Husayn regarded his action as prudent in the face of certain defeat if he had continued to insist on his role as Palestinian spokesman. He subsequently maintained, however, that the Rabat decision made it unnecessary for Jordan to participate in the Geneva Conference. He has also paid lip service to Arab urgings that he patch up his quarrel with the PLO, but no commitments are known to have been made on any clear steps toward rapprochement or a reestablishment of fedayeen presence in Jordan. Bilateral relations with the major Arab states have greatly improved, especially with Syria. Husayn and Asad exchanged visits in April and May, and Syrian military delega-

[illegible] have gone to Jordan to discuss air defense matters, an area of principle weakness for Jordan.

Lebanon has become the main arena for violence associated with the Arab-Israeli problem. After the threat of war on Golan diminished in late November 1974, increased fedayeen activity against Israel from southern Lebanon invited a series of strong Israeli military responses. Israeli planes and ground forces attacked suspected fedayeen positions almost daily in late December and early January. Lebanese internal security difficulties were further compounded in March with armed clashes between the Lebanese Army and radical fedayeen who had joined Lebanese leftists in exploiting public demonstrations in Sidon over primarily economic grievances. But the most serious development in Lebanon's troubled relationship with the fedayeen began in April as a long-feared armed conflict involving radical fedayeen groups and the Phalanges Party, one of the major Christian elements, broke out. The first clashes began on April 13 in Beirut and quickly intensified. Frequent truces failed to hold; the city was largely paralyzed by further violence between right wing Christians (notably Phalangists) and fedayeen and Lebanese leftists for most of the following two-month period. The government virtually ceased to function and President Franjiyah finally was forced to turn to a political rival, Rashid Karami, to form an acceptable cabinet and lead the country back to some semblance of normalcy. The bloody fighting, meanwhile, had resulted in over 300 killed and several thousand wounded.

Iraq continued to be burdened with an unpopular war against its dissident Kurdish minority and accompanying difficulties with neighboring Iran. The successful mediation effort by Algeria's Boumediene, encouraged by other Arab leaders, however, resulted in an Iranian-Iraqi accord on March 6, 1975 that set the stage for a decisive end to the warfare. In return for Iran's withdrawal of support for the Kurds, Iraq agreed to settle the Shatt al-Arab boundary dispute on Iran's terms. Iraqi strongman Saddam Husayn was determined to end the long conflict with the Kurds because of its corrosive effect on the army's morale and loyalty to his regime and because the government's preoccupation with the Kurdish problem diverted its attention from pressing economic development plans.

In *Israel*, the Rabin government's parliamentary strength was increased somewhat by bringing the National Religious Party (NRP) into the cabinet. Still, the government's negotiating flexibility vis-a-vis the Arabs remained significantly limited. The suspension of the step-by-step approach to negotiations in March 1975 reflected the difficulties inherent in reconciling Israel's need for an acceptable Egyptian commitment to abandon war in exchange for further substantial Israeli withdrawal in Sinai. The US's subsequent "policy reassessment" was disquieting to many Israelis and was resented by others as unwarranted pressures on Israel to make unacceptable concessions. Israel basically continued to desire a negotiated settlement, but it was determined that its security not be jeopardized in the process. Broader U.S. assurances enabled Israel to finally agree to the accord with Egypt, signed on September 1, that called for it to cede more territory in Sinai.

2. Attempts to Resolve the Impasse

The political problems that remained after the two disengagement agreements went into effect in the first half of 1974 were even more intractable than the issues of military disengagement. Neither Arabs nor Israelis have developed the mutual confidence that would enable them to carry on negotiations without heavy reliance on international and, particularly, US mediation. Moreover, progress in peace efforts is subject to disruption by factional disputes or terrorist acts aimed at frustrating the process of negotiations.

The main thrust of US diplomacy was influenced heavily by the unanimous decision on the PLO taken at the summit conference at Rabat in October 1974. That action, because of Israel's refusal to deal with the PLO, effectively eliminated any possibility of concluding an initial agreement on the Jordanian-Israeli front, a move that appeared a logical followup to the Sinai and Golan accords. US efforts, therefore, were then directed toward preparing the ground for a further agreement between Egypt and Israel.

Secretary Kissinger, who visited the Middle East in October, returned to the area in early November in the midst of growing tensions on the Golan Front. His deliberations were, in effect, preparation for President Ford's trip to the USSR. The Ford-Brezhnev communique issued in Vladivostok on November 24 affirmed the intent to make every effort to promote a solution to the key issues of a just and lasting peace in the Middle East on the basis of UN Security Council Resolution 338, taking into account the legitimate interests of all the peoples of the area, including the Palestinians.

Following visits to Washington by Israeli Foreign Minister Allon in early December and again in mid-January, 1975, Secretary Kissinger undertook a further exploratory mission to the Arab countries and Israel. Upon leaving the Middle East on February 14, he stated his intention to return again in March.

When the Secretary began his Middle East shuttle on March 7, it was apparent that both Egypt and Israel were operating under difficult political restraints. Both sides, however, seemed sufficiently concerned about the consequences of failure to make an attempt to bridge the gap in their positions worthwhile. Throughout the negotiations Egypt sought to obtain Israeli withdrawal from enough territory in Sinai to justify reaching a separate agreement in the face of Palestinian and Syrian opposition. For its part, Israel sought the concessions from Egypt on the key question of nonbelligerency that would enable it to justify withdrawal from strategic areas. After two weeks of intense bargaining, however, bridging the gap between Egypt's territorial demands and Israel's political conditions proved impossible and Secretary Kissinger announced that his efforts were being suspended.

All parties then needed time to consider their positions in light of the failure to reach a new accord and to determine how best to proceed. Although both Egypt and Israel appeared desirous of keeping all diplomatic options open, it seemed that the focus of attention might have to be shifted to multilateral diplomacy. Sadat called for the early resumption of the Geneva talks, while his restrained March 29 address contributed to a reduction of tensions that had arisen after the step-by-step suspension.

The Geneva alternative was once again relegated to the background as indications grew that Egypt and Israel might be receptive to further US initiatives. Consequently, arrangements were made for high-level consultations with both sides. Sadat was invited to meet with President Ford in Salzburg June 2-3, and Rabin visited Washington for substantive talks June 10-12. Syrian Foreign Minister Khaddam was also received by the President and the Secretary in Washington later in June.

As a result of renewed interest shown by the parties, additional initiatives were undertaken to lay firmer groundwork for the resumption of negotiations. During July and early August intense US diplomatic efforts gradually narrowed the gap between Egypt and Israel enough to warrant rising optimism that another attempt to conclude a second interim agreement might be possible. This new momentum enabled Secretary Kissinger to announce his intention to travel to the Middle East with greater expectations for success than in March. He arrived in Tel Aviv on August 21 to begin a shuttle mission culminated by Egyptian and Israeli acceptance of a disengagement pact on September 1. The agreement was approved by the Israeli Knesset on September 3 and signed by military representatives in Geneva the following day.

The accord involves essentially territorial withdrawals by Israel and political concessions by Egypt. Its nine articles provide for resolution of conflicts by peaceful means, strict observance of the ceasefire, Israeli withdrawal eastward behind delineated lines that include the eastern approaches of the Mitla and Giddi Passes and from the Abu Rudeys oil fields, continuation of UNEF for one-year periods, creation of a joint commission to oversee the agreement, passage of noncmilitary Israeli cargoes through the Suez Canal, and recognition that the agreement is not a final peace agreement.

The accord also provides safeguards under a US proposal for an early-warning system in Sinai. This proposal would "establish two surveillance stations to provide strategic early warning, one operated by Egyptian and one operated by Israeli personnel." In addition, the two stations shall be supported by three watch stations in the Mitla and Giddi Passes, manned by US civilian personnel, to number no more than 200.

Moreover, an Annex to the Sinai Agreement makes stipulations regarding preparation of a detailed protocol for implementing the disengagement agreement. Egyptian and Israeli representatives began meeting in Geneva for that purpose on September 9. The Annex also outlined UNEF responsibilities; permissible Egyptian and Israeli presences, especially in the Abu Rudeys area; US aerial reconnaissance missions over the disengagement area every 7-10 days; and force limitations. Terms relating to limited armaments zones restrict each side's military presence in the authorized zones to 8 standard infantry battalions, 75 tanks, 60 artillery pieces with ranges not to exceed 12 kilometers, and 8,000 total personnel. The redeployment of forces called for by the Sinai Agreement is to be completed within five months after signature of the protocol to be drawn up by the special working group.

3. *The Occupied Territories*

While little has changed administratively in the occupied territories since the October 1973 war, there have been a number of major attitudinal changes

in Israel about their future. Prior to the war, Israel had avoided committing itself to any long-term policy on the territories. Israel did, however, raise some de facto pre-conditions of its own: that it would not leave the Golan Heights, Gaza or Sharm al-Shaykh.

Additionally, Israeli operational decisions—permitting Jewish settlements and land ownership in the territories, providing for increased administrative coordination of the territories with Israel, and integrating Arab labor into the Israeli economy—had the effect of linking the territories more closely to Israel despite the absence of any long-term political policy. As a result, Israelis have begun to view some of the territories with an increasingly proprietory interest.

The situation in the occupied lands is not static. From the beginning, Israel sought to make certain basic changes in those areas which would both enhance its security and demonstrate its intention to retain at least part of them. It has established approximately 17 settlements in the Golan, 20 on the West Bank, and 9 in Sinai and the Gaza Strip, many of which are paramilitary *nahals*. In some instances, indigenous Arab inhabitants were resettled and Arab villages were leveled. The establishment of Jewish civilian settlements in the occupied areas reduces the Israel Government's negotiating flexibility on withdrawal issues since the settlers tend to be affiliated with Israeli political factions. In 1975, as the negotiations for further withdrawals got underway, pressures mounted for increased Israeli presence in the occupied areas, with characteristics of permanence. A central town in the Golan Heights, an industrial settlement on the West Bank and more settlements in Sinai were among those expansions urged.

Since the October 1973 war, however, the Israelis have been confronted with the real possibility of having to negotiate a settlement of the territorial question, within the larger context of an overall Arab-Israeli settlement. The realization of this has forced an agonizing reappraisal among Israelis of their negotiating position on the territories, something they never had to do before. Out of this reappraisal, several distinctions are coming into focus.

Sinai, Gaza, and the Golan Heights are viewed almost exclusively in security terms. From the Israeli point of view, both Sinai disengagement agreements and the Golan disengagement agreement were possible primarily because there were both security gains and sufficient political trade-offs to counter perceived but acceptable security losses entailed in the agreements. The Israelis are much more apprehensive about giving up territory in the rest of Sinai and Golan. They insist that they will never "come down from" the Golan Heights, and their perceived security need to retain Sharm al-Shaykh and a strip of eastern Sinai to separate Egypt from Gaza remains very strong. On Gaza itself, there is much ambivalence. Israel adamantly opposes returning it to Egyptian administration, but has as yet no firm position on its ultimate disposition. It tends, though, to favor annexation of the Gaza Strip, and that part of Sinai adjacent to it—the so-called Rafah Approaches.

Israeli attitudes toward the West Bank are more complex. East Jerusalem is, in Israeli eyes, incorporated into Israel, and the rest of the West Bank (called Judea and Samaria by the Israelis) is closely associated with the Zionist concept of the "land of Israel" (Eretz Israel). Hebron (al-Khalil) is the second holiest city in Judaism. Thus, the disposition of the West Bank transcends security con-

siderations and becomes a very divisive domestic political-religious issue. Not only does the right-wing opposition Likud oppose relinquishing the West Bank, but the government coalition partner, the National Religious Party, opposes it as well. The dilemma for those Israelis who would retain the West Bank (and Gaza, also a part of Eretz Israel), however, is that it would incorporate nearly one million Arabs into the Israel body politic and would in the long run threaten the Jewish character of the state.

The Arab population of the West Bank also presents a major security problem in Israeli eyes. The premise that the Palestinians should be accorded some rights has generally been accepted, but most Israelis strongly opposed the creation of a Palestinian state on the West Bank with or without Gaza, fearing that such a state would be governed by a radical nationalist regime unalterably hostile to Israel. The Israelis would much prefer that the West Bank—or those portions that Israel would give up—return to King Husayn's rule. Since both Palestinian and general Arab sentiment (with the obvious exception of Jordan) appear to favor the creation of some sort of independent Palestinian entity, the whole Palestinian question, together with the disposition of the West Bank and East Jerusalem, have become issues over which Israel would prefer to avoid negotiations for as long as possible. The closest thing to a policy on the West Bank that Israeli leaders have expressed, and then only informally, is the Allon Plan. This plan, first formulated by Deputy Premier Allon in 1967, calls for a return of the populated areas of the West Bank to Jordan with broad security strips along the Jordan valley and in the Judean Hills, together with a corridor linking the security strips to Israel proper, remaining in Israeli hands.

4. *Refugees*

The Palestinian refugee problem has been a matter of concern since 1948. The new waves of migration, largely from the West Bank of Jordan to East Jordan, that took place during the June 1967 hostilities created new categories of refugees: those displaced for the first time by the 1967 war and those already in refugee status who were displaced a second time. The United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) was established in 1950 to care for what were then about 725,000 refugees. By April 1, 1975 there were 1,818,783 registered refugees in Jordan, Syria, Lebanon, and the Gaza Strip. The largest number, over 580,442, were on the East Bank and about 150,000 of these refugees have been twice displaced. In addition to the UNRWA-registered refugees, there are some 100,000 non-UNRWA-registered Palestinians displaced by the 1967 war in Jordan, about 75,000 former inhabitants of the Golan Heights displaced elsewhere in Syria, and at least 350,000 Egyptians evacuated from cities along the west bank of the Suez Canal. An additional 17,000 Syrians were displaced in the October 1973 war. These and some 25,000-30,000 inhabitants of the Golan, as well as those Egyptians evacuated from the cities of the Suez Canal, were to have been repatriated as part of the 1974 Egyptian and Syrian disengagement agreements with Israel.

UNWRA's financial position continued to deteriorate during the past year, and cutbacks in rations, education, and employees were deemed inevitable. A new element to this situation, however, was a PLO signal that it might no longer oppose Arab assistance to the bankrupt organization. Saudi Arabia reacted to this indication by providing a special contribution of $10 million and an

annual contribution of $1.2 million. The Saudis are now the third largest contributor to UNWRA. The US, with a $23.2 million annual and $16 million special contribution, remains the largest donor, while the European Economic Community continues as the next largest. The Saudi precedent may unlock the door to additional donations from other oil-rich Arab states, enabling UNWRA to cope with its remaining $11 million deficit.

5. *Palestine Liberation Groups (Fedayeen)*

Approximately 30,000 people are involved in the fedayeen movement. Roughly one-third are commandos; the rest are engaged in support activities such as policing refugee camps and collecting funds.

The several fedayeen groups to which the commandos belong are not united under a single command. With one exception, however, the major groups are all full members of the fedayeen-controlled Palestine Liberation Organization (PLO), headed by Yasir Arafat. The PLO's relatively moderate leadership claims to represent both fedayeen and non-fedayeen Palestinian interests, a claim bolstered by decisions of the Arab heads of State at Rabat in October 1974 and the UN General Assembly in November 1974. The moderate leadership sanctions attacks on Israeli-controlled territory, but does not endorse acts of international terrorism.

The fedayeen have become a greater factor in the peace settlement effort since the October war. Both Egypt and Syria have stated in connection with their agreement on disengagement that a final settlement must provide for the restoration of Palestinian rights. They have additionally encouraged the fedayeen organizations to adopt a unified position in favor of Palestinian participation at the Geneva Conference when it reconvenes. Factionalism within the Palestinian resistance movement has prevented unanimity, although the Palestine National Council, the legislative arm of the PLO, meeting in Cairo in June 1974 adopted a decision that left the door open for PLO participation at Geneva for the purpose of establishing a Palestinian state on the Israeli occupied West Bank and Gaza.

The largest and most important fedayeen group is Fatah, led by Yasir Arafat. Since the October 1973 war, Fatah has followed a moderate strategy favoring Palestinian participation in Middle East peace talks and acceptance of a small Palestinian state consisting of the West Bank and the Gaza Strip. Despite qualified approval of Arafat's policies by the Palestine National Council, fedayeen radicals are continuing to work against him.

Prior to the October war, when Palestinian participation in the search for a permanent Arab-Israeli settlement was not seriously considered a realistic option, Fatah had backed a generally more radical policy. The group's terrorist arm, the Black September Organization, was a leading perpetrator of international terrorism. Should peace negotiations fail to produce concrete results for the Palestinians that would justify Fatah's current restraint, the group almost certainly will revert to a more radical line and return to international terrorist activities.

Saiqa, the second largest fedayeen group, is controlled by the Syrian Ba'th regime and follows its lead on policy matters. Saiqa is cooperating with Fatah in attempting to marshal wide Palestinian backing for the Syrian and Egyptian

strategy of pursuing a peaceful settlement of Middle East issues. Saiqa has generally avoided international terrorism, and has been prevented by Damascus from striking directly at Israel from Syrian territory.

The Popular Democratic Front for the Liberation of Palestine (PDFLP) has generally supported Fatah and Saiqa in calling for a negotiated settlement in the Middle East. In early 1975, the group's frustration with Arafat's leadership led it to speak of assuming a more independent stance from which it could more forcefully criticize both radical and moderate fedayeen leaders. The PDFLP is important to a degree that its small size would not justify; its Marxist ideology gives it a special affinity to the Soviets, and it has at least a rudimentary political organization on the Israeli-occupied West Bank.

Three radical fedayeen organizations are cooperating under the label of the Rejection Front to oppose any peaceful settlement. They include the Popular Front for the Liberation of Palestine (PFLP), the Popular Front for the Liberation of Palestine—General Command (PFLP-GC), and the Iraqi-controlled Arab Liberation Front (ALF). The PFLP withdrew from the executive committee of the PLO in September 1974; the other two groups would be likely to leave the PLO in the event the organization elects to participate in formal peace negotiations.

The three radical groups have small memberships and limited popular followings. With the considerable financial and operational support they receive from the governments of Iraq and Libya, they will be able to continue their spoiling operations even in the event that the larger fedayeen groups enter into the peace settlement process. Leaders of the relatively moderate groups that control the PLO have almost no ability to control the activities of their radical colleagues.

The less radical fedayeen groups and the PLO receive most of their financial support from Saudi Arabia, Kuwait, and private Persian Gulf sources. They have in the past also received substantial sums from Libya and Iraq, but these sources are less reliable and more inclined to dictate how their funds are spent. Although fedayeen leaders frequently complain that the Arab states are not fulfilling their financial obligations to the Palestinians, the movement as a whole appears to have sufficient funds to continue its terrorist and quasi-military activities for the foreseeable future.

Military equipment has been supplied the fedayeen by Iraq, Syria, Egypt, Algeria, Libya and China. Equipment that has come from the USSR and Eastern Europe has been delivered through sympathetic Arab states, but generally not by direct shipment. Syria alone is in a position to effectively control the flow of arms to the fedayeen; almost all equipment, whatever its source, transits Syrian territory to reach guerrilla bases.

Fedayeen military units are generally armed with automatic rifles, submachineguns, rocket launchers and mortars. Most of the weapons are of Soviet, Chinese and Czechoslovak manufacture. Palestinian units also have some heavier weapons and equipment, including armored personnel carriers (APC's), artillery

Figure 1

PALESTINE LIBERATION ORGANIZATION
Yasir Arafat, Chairman

1. FATAH
Independent moderate
Yasir Arafat
8,000 commandos

2. SAIQA
Controlled by Syria
Zuhayr Muhsin
3,000 commandos

Favor negotiated settlement and cooperation with Egypt and Syria

3. POPULAR DEMOCRATIC FRONT for the LIBERATION of PALESTINE
Independent Marxist
Nayif Hawatmah
300 commandos

4. POPULAR FRONT for the LIBERATION of PALESTINE (withdrew from the PLO's governing Executive Committee in September 1974)
Independent radical
George Habbash
500 commandos

"Rejection Front"—Supported by Iraq and Libya

5. POPULAR FRONT for the LIBERATION of PALESTINE—GENERAL COMMAND
Independent radical
Ahmad Jabril
500-300 commandos

6. ARAB LIBERATION FRONT
Controlled by Iraq
Zayd Haydar
100 commandos

and anti-aircraft guns. In late 1973 Syria began supplying SA-7 shoulder-fired ground-to-air missiles to Fatah and Saiqa. Libya had earlier supplied a handful of SA-7s to the fedayeen.

The fedayeen's conventional military capability is limited. It consists primarily of Fatah's al-Asifa military arm—which includes the Yarmuk Force, based in Syria and Lebanon—and the Saiqa militia, which is effectively controlled by Syria. Fedayeen forces are indirectly strengthened by the Palestine Liberation Army (PLA), which, although composed of Palestinian detachments from Arab armies, is loosely affiliated with the PLO and could with the permission of the Arab states become available to the fedayeen movement.

Fedayeen and PLA forces played little role in the 1973 Arab-Israeli war. The fedayeen shelled Israeli positions from bases in southern Lebanon; PLA units saw limited action on the Golan and Suez fronts.

In early 1974, Lebanon-based fedayeen stepped up their cross-border strikes at Israel. Heavy Israeli airstrikes at fedayeen bases in Lebanon failed to curtail

Figure II

PALESTINE LIBERATION ARMY

5,000-5,500 troops

Hattin Forces
Based in Syria

Ain Jalut Forces
Based in Egypt
(Possibly transferred to Syria)

Qadisiyya Forces
Most based in Syria
(Some in Jordan)

Popular Liberation Forces
Based in Lebanon
(Guerrilla arm of PLA)

the terrorist operations, which were mounted by several groups hoping to subvert peace negotiations or insure that the Arab states participating in the peace talks were forced to deal with Palestinian issues.

The fedayeen remain a significant military threat to Lebanon's internal security. Although the larger, moderate fedayeen organizations generally avoided involvement in the civil unrest in Beirut during April, May and June 1973, radicals from the smaller groups joined with Lebanese leftists in mounting a major challenge to Lebanon's internal security forces. The major fedayeen groups and the Lebanese army have not clashed since May 1973.

The fedayeen have not posed a military threat to Jordan since their defeat and ouster by the Jordanian Army in 1970-1971. King Husayn remains a prime target for fedayeen terrorists.

Fedayeen international terrorist activity has declined since early 1974, when the possibility of political success first emerged in the wake of the October 1973 war. In the first half of 1975, the bulk of the Palestinian effort focused on operations in Israeli-controlled territory. Nevertheless, the radical fedayeen groups and rejectionist factions, acting independently of the moderate leadership, continued to plan and occasionally implement international terrorist operations. Prospects for an increase in the incidence of international terrorist acts increased in June 1975, when Libya sought to revive the rejectionist forces through increased financial assistance and greater coordination of rejectionist plans to neutralize efforts toward a political settlement of the Middle East problem.

B. The Soviet Presence

In the mid-1950s, the Soviet Union began to seek influence in the Middle East by exploiting Arab-Israeli antagonisms and anti-Western, Arab nationalism.

The USSR offered several Arab states military and economic aid and political support and during the 1960s developed close ties with Egypt, Syria and Iraq.

By lining up with the Arabs against Israel and the US, the Soviets hoped to bring the states of the region into an anti-Western alignment and to increase their own influence. Moscow also wished to see Arab Communist parties strengthened, but has shown itself willing to sacrifice the interests of these parties in order to maintain official state relations with Arab governments and to develop ties with the non-Communist Arab left.

The Soviet position in the Middle East was particularly strong in Egypt where, after the June 1967 war, the USSR had acquired military facilities for its own forces. Israel's "deep penetration" air raids on Egypt early in 1970 led the Soviets to risk their own power and prestige to protect Egypt from Israeli attack. Substantial amounts of Soviet air defense equipment, including Soviet combat units, were committed and Soviet military personnel increased from an estimated 6,000 in early 1970 to around 15,000 by the end of 1970. The conclusion of the Egyptian-Soviet friendship treaty on May 27, 1971 was aimed at preserving Moscow's position after Nasir's death.

Increasingly aware of the vagaries of Arab politics, Moscow sought to diversify its presence in the Middle East beyond Egypt. The conclusion of a Treaty of Friendship and Cooperation with Iraq on April 9, 1972 marked a major move by the USSR to establish a position in the Middle East less dependent of the demands of the Arab-Israeli conflict and the Soviet presence in Egypt.

The expanding Soviet involvement and influence in the Middle East was dramatically set back on July 18, 1972 when President Sadat ordered the withdrawal of virtually the entire military advisory force from Egypt. In the period between their expulsion from Egypt and the October 1973 war the Soviets were less active in the Middle East, in part because of the emphasis they gave to their evolving detente relationship with the US, and in part because of the complexity of their relations with the Arab States. The Arab decision to go to war, however, forced the Soviet hand. Moscow gave strong political backing to the Arabs, and mounted a major air and seaborne lift of military supplies to them.

Soviet support for the Arabs during the war threatened to bring the Soviet Union into direct confrontation with the US. Faced with a deteriorating Arab military position, the Soviets invited Secretary Kissinger to Moscow to work out a cease-fire. The failure of Israel to observe the cease-fire, however, caused the Soviets to threaten to intervene unilaterally. Faced with a strong US response and placated by US pressure on Israel to obey the cease-fire, the Soviets did not take such action.

Although the Soviets calculated that their support for the Arab side would enhance the Soviet position, events since the war have been a disappointment to Moscow. The Soviets have been unable to play a major role in Middle East diplomacy aimed at a settlement, their relations with Egypt have continued

to deteriorate and even such stalwarts as Iraq and Syria have shown an interest in reducing their dependence on Moscow. A number of factors have contributed to Soviet setbacks but the most important has been that the Arabs have looked to the US for a Middle East settlement. In addition, Moscow has had to contend with the increased influence of oil rich conservative Arab states, particularly Saudi Arabia. The Arabs have also been disillusioned with Moscow's failure to offer all the support they wanted against Israel and disappointed with the quality of Soviet technical and economic aid.

The Soviets have adopted an ambivalent view of movement toward a peace settlement. They are fearful that an Arab military defeat would again lead to the possibility of a US-Soviet confrontation. For this reason, the Soviets have acknowledged that a degree of diplomatic momentum is necessary if war is to be avoided. On the other hand, the Soviets have bitterly resented the domination of the settlement process by the US which has undercut their painstakingly built-up position in the Middle East.

The Soviets, therefore, have energetically sought a role for themselves in Middle East diplomacy. They have tried to limit US and Egyptian efforts to negotiate independently from Moscow by fanning Syrian and Palestinian suspicions of the bilateral disengagement talks. They have argued that the Geneva conference was proper forum for resolving the Middle East situation and, in the spring of 1975 following the collapse of Secretary Kissinger's efforts to arrange a second Egyptian-Israeli disengagement agreement, mounted a serious but unsuccessful effort to convene the conference. In order to moderate Tel Aviv's opposition to a Soviet role in the settlement process, Moscow has said it is willing to guarantee Israel's pre-1967 borders and has suggested it will resume diplomatic ties with Israel if progress is made toward a settlement.

The Soviets have been particularly upset by Egyptian President Sadat's efforts to improve relations with the West and lessen Egypt's dependence on Moscow. To indicate their dissatisfaction with Egyptian foreign and internal policies, the Soviets have significantly curtailed their military assistance program, refused to reschedule Egyptian debt payments, and have permitted their economic assistance program to stagnate. Moscow, however, has not cut its ties with Egypt completely. The Soviets recognize that some influence in Egypt is essential to their broader goals in the Middle East and want to protect their remaining interests in Egypt, such as use of port facilities in Alexandria.

In order to pressure Sadat and to develop an alternative to Egypt should relations continue to deteriorate, the Soviets have sought to improve relations with Libya. In 1974 and 1975 Moscow sold Libya substantial amounts of sophisticated weapons; the Soviets probably hope to obtain use of Libyan ports for their naval vessels. Moscow, however, does not share Libya's intransigent opposition to Israel, and Tripoli remains suspicious of Russian intentions and strongly anti-Communist.

The Soviets have sought to maintain close relations with Syria through a substantial military and economic assistance program. Although Moscow has

sought to influence Syria's negotiating position in the peace talks, it is aware that it cannot dictate to Damascus its policy towards settlement. The Soviets have also sought to develop stronger relations with the fedayeen in order to establish another base of influence. The Soviets have given the fedayeen political support as well as military supplies and training. Moscow, however, has been frustrated by disunity among the fedayeen gro , and has not fully backed their more extreme demands.

II. MILITARY SITUATION

A. General

Despite improvements in training and discipline by the Arab forces and possession of large quantities of modern sophisticated weaponry, the Israeli Defense Forces (IDF) retain an overall military superiority due primarily to superior leadership, a better capability to employ combined arms forces, greater adaptability of the Israeli soldier, and more advanced technical skills in all services. Although it has lost control of some territory of the Sinai and the Golan Heights, Israel still enjoys some strategic depth. To preclude repetition of the initial successes achieved by Arab forces in October 1973, Israel is developing an effective strategic warning system and designing a better force balance. The force balance is being improved by additional artillery units and upgraded mechanized infantry units, by maintaining a larger standing army, and by improving electronic warfare and night combat capabilities.

Arab forces have a limited capability to conduct large scale sustained offensive operations. They can be expected to continue to improve their ability to utilize their equipment and to make strong efforts to overcome deficiencies in leadership, higher-command ability, and technical skills.

1. *Ground Forces*

During the 1973 Arab-Israeli war, the Israeli Army, under especially difficult circumstances, again demonstrated its superiority over the combined Arab armies. This advantage continues to be based on the qualitative factors of highly skilled motivated personnel, excellent training, and tactical expertise. All significant Arab gains were made prior to effective Israeli mobilization which, when carried out, clearly shifted the advantage to the Israelis. Based on overall performance during the war and efforts underway to correct weaknesses pointed out by the war, the Israeli Army is capable of defeating the combined Arab armies across a broad spectrum of levels of combat. The strength and combat power of the Israeli Army have increased significantly since the October 1973 war, particularly due to the growth of the army's inventory of more modern weapons. As of July 1975, Israel had at least one-third more tanks, more than twice as many 155-mm and 175-mm self-propelled artillery pieces, and about three times more M113 armored personnel carriers (APCs) than it had immediately prior to the war. Israel has used this equipment to organize at least one new reserve armored division; a second new reserve armored division is in the

process of formation and should be fully operational by the end of this year. This will, by late 1975, allow the Israelis to field nine armored divisions and two division-level task forces (compared to seven during the October war).

A large and relatively modern arms inventory gives the Arabs the capability to engage the IDF with weapons of generally equal quality. Currently, the combined Arab forces enjoy an edge in numbers of field artillery, tanks and antitank weapons. Moreover, a large quantity of modern night observation, target detection devices are available to the Arab soldier, although only limited use of night fighting equipment was made in October 1973. Egyptian and Syrian combat units reflect strong Soviet influence in the techniques of employing massive integrated armor, infantry, and artillery forces.

The Egyptians have a particular appreciation for the main Israeli ground threat—armor. Equipment is the Egyptian Army's single greatest strength. All divisions are either mechanized or motorized with a large percentage of first-line Soviet/Warsaw Pact vehicles equipped for night operations as well as a chemical/biological environment. The Egyptian Army is the largest of the Arab armies and has a current inventory of tanks and APCs estimated to be equal to that of the prewar October 1973 level. Since the October war, several major units have been reequipped and retrained. Overall capabilities generally equate to those possessed prior to the October war. However, compared to the Israeli Army, the Egyptian Army in mid-1975 is weaker than in October 1973 due to the Israeli Army's improved capabilities and increased inventories.

While the Syrian Army is similar to the Egyptian Army in equipment and doctrine, there are major weaknesses in organization, logistics and personnel. These vulnerabilities will severely affect the Syrian capability to conduct a sustained offensive, but are of lesser importance when Syria is on the defensive. Major changes have occurred in the Syrian Army since October 1973. Equipment lost in the war has been more than replaced by the continuing Soviet resupply. The medium tank inventory is estimated to have increased by over 20 percent and more modern weapons such as the T-62 tank, BMP armored personnel carrier, BRDM-2 armored reconnaissance vehicle w/SAGGER antitank missile, and the ZSU-23/4 AA gun have provided a significant increase in the army's combat potential. Training and exercise activities have been intense during the past 18 months. Although no new units have been identified since the war, the Syrian Army has sufficient equipment and independent brigades to organize one new armored division. There are indications that this may have been accomplished. Reports that the Soviet-produced SCUD surface-to-surface missile system is in Syria have been confirmed.

In the short term, it will not be possible for the Arabs to close the gap between their armies and the Israeli Army. The weaknesses of the Arabs can only be overcome by a determined and long term effort.

2. *Naval Forces*

The Israeli Navy has combat superiority over any Arab navy or combination of Arab naval forces. Because of the quality of its organization, personnel, training, and equipment, it will continue to possess this distinct advantage over Israel's potential enemies in the Mediterranean Sea-Red Sea area at least until the 1980s. In multiple engagements with STYX missile-equipped OSAs and

KOMARs of the Egyptian and Syrian navies during the October 1973 war, history's first battles between surface-to-surface guided missile-equipped naval combatants, the Israelis emerged victorious, sustaining no losses while inflicting heavy losses on the Arab navies.

The Egyptian Navy's capability to counter the Israeli Navy is minimal. Although it is expected to improve, force parity with the Israelis is not envisioned within the next decade. Should the threat of hostilities with Israel diminish, the Egyptian Navy may be expected to direct more of its efforts toward the development and maintenance of a force capable of fulfilling a diplomatic role. The Egyptian Navy has visited Algiers and makes regular use of port facilities in the Sudan, South Yemen, and Somalia.

The October 1973 war demonstrated that the Syrian Navy was an ineffective force. It does not at present and will not within the foreseeable future pose a significant threat to Israeli ships or installations.

3. *Air Forces and Air Defense Forces*

The Israeli Air Force, qualitatively superior to the Arab air forces, is capable of maintaining air superiority over Israel and the occupied areas and of gaining and maintaining air superiority over any chosen part of the neighboring Arab countries. The quality of personnel is superior to that of the Arabs and provides a decidedly clear advantage in air-to-air combat and deep strike missions. Future effectiveness of its close air support and interdiction capabilities will depend upon its ability to suppress the Arab air defense systems and provide better-trained forward air control teams to work with the ground force elements.

The Arabs will not be able to deny Israel air superiority for some time due to their lack of combat qualified pilots and technical personnel. However, their ground-based air defense systems do provide a means of inflicting serious damage upon the Israeli Air Force and degrading its close air support and interdiction roles.

Egypt remains over 100 aircraft short of its prewar total of 800. However, acute spare parts shortages are believed to have been remedied by the resumption of Soviet deliveries. These have included new aircraft such as the MIG-23 and additional numbers of the SU-20 and MIG-21J. With the addition of the Mirage aircraft from France, Egypt has begun to diversify its aircraft supply from its former complete dependence on the Soviet Union. The Egyptian Air Force has started the transition to a new generation of aircraft as the MIG-23s, MIG-21Js, SU-20s and Mirage 5s replace older MIG-15/17, SU-7, and MIG-21 aircraft.

The Syrian Air Force has also modernized and improved since the October 1973 war with the addition of newer types of Soviet aircraft, i.e., MIG-23/FLOGGER, MIG-21/FISHBED J, and SU-20/FITTER C, and the acquisition of greater numbers of jet qualified pilots. However, due to logistic difficulties and qualitative and performance deficiencies, the Syrian Air Force continues to have a marginal capability as compared to the Israeli Air Force.

The following points demonstrate the employment doctrines of the Arab and Israeli air forces which are mainly dictated by lack of skilled personnel on the Arab side and a past imbalance of infantry and artillery forces on the Israeli side.

— Israel employs aircraft as the primary battlefield air defense weapon, augmented by ground-air defense systems, while the Arabs use surface-to-air missiles and air defense artillery.

— The Israelis have used tactical air support as a primary means of providing heavy fire support to divisional units while the Arabs use large amounts of artillery. There are indications that the Israelis have changed this tactical doctrine. The artillery corps has been expanded significantly and will be used to support combat units, while attack aircraft will be used in interdiction and air defense destruction roles.

— The Israelis depend upon their more highly skilled pilots and better aircraft for air supremacy while the Arabs attempt to offset these advantages with numerical superiority.

B. Israel

1. *Ground Forces*

(a) *Capabilities*

The Israeli Army can successfully contain simultaneous attacks on all fronts (Egypt, Syria, Lebanon, and Jordan). Fully mobilized, the army is capable of defending on any three fronts while launching a major offensive on the fourth.

Combat effectiveness is enhanced by:

(1) High quality personnel who can be generally characterized as highly motivated, well trained, technically proficient, and well educated.

(2) Integrated internal lines of communication.

(3) The ability to mobilize rapidly.

(4) Highly capable field commanders who have demonstrated the ability to successfully direct highly fluid battlefield situations, organize rapidly expanding forces, and starting from a defensive posture quickly seize the initiative from their opponents.

Since the recent conflict the army has endeavored to increase the numbers and effectiveness of the mechanized infantry and artillery, to develop an effective night fighting capability and to increase the size of its munitions and materiel stockpiles. The combat effectiveness of each Israeli armored division is being enhanced by the inclusion of an additional 155-mm self-propelled artillery battalion (12 tubes). An antitank guided missile battalion (36 launchers), is also scheduled to be added. In addition, the army is improving the combat capability of its mechanized formations. Overall combat capabilities have been improved by increased operational readiness, better and more intensive training, streamlined mobilization procedures, a higher active duty strength and improved defensive fortifications. During the second half of 1975 the Israeli Army will retain and probably increase its superiority over the Arab armies.

(b) *Personnel Strength*

135,000 (number fluctuates as a result of periodic reserve training and regional tensions). The prewar October 1973 mobilized strength of 88,000-90,000 proved inadequate to provide a sufficiently safe margin against surprise attack.

(c) *Organization*

Israel is divided into Northern, Central, Southern and Southern Sinai Territorial Command areas, plus the Jerusalem, Tel Aviv and Haifa Military Districts which are capable of independent operations should they become isolated. Although the basic operational unit is now the armored division, at least one division level task force and several independent brigades remain in existence. An additional armored division is believed to be forming.

(d) *Deployment*

Northern Command is responsible for ground force operations on the Syrian Front and currently has one active and two reserve armored divisions, three active infantry brigades and one or two reserve brigades under its control. Units in Central Command area of operation include two reserve armored divisions, an active infantry brigade, two active airborne brigades, and several reserve brigades. One of the airborne brigades is directly controlled by IDF General Headquarters. Southern Command controls two active and one reserve armored divisions, an active division-level task force, an active airborne brigade, and possibly one or two reserve brigades. The Southern Sinai Command controls one mechanized infantry brigade.

(e) *Major Tactical Units*

Units	Active	Unit strength
8 armored divisions	3	12,000
2 task force headquarters	1	
5-6 airborne brigades	3	2,000
2 armored brigades		1,800
11 infantry/mechanized brigades	5	2,500/3,200
3 artillery group headquarters		unk.
3 command and support brigades		2,500

(f) *Status of Equipment*

Armament consists principally of weapons of US, UK, and Israeli manufacture, but also includes many captured vehicles and weapons of Soviet origin. Quantities are sufficient for full mobilization. The army continues to effectively maintain and rehabilitate equipment and to modify and replace that which becomes obsolete. Some Soviet equipment, primarily vehicles, rocket launchers, and T-54/T-55 tanks, has been integrated into the tactical units. Tank and armored personnel carrier (APC) holdings will be substantially increased over the next few years by the continuing delivery of M-48 and M-60 series tanks and M-113 APC variants. The inventory of 155-mm self-propelled artillery will be increased by purchases of the US M-109 self-propelled howitzer and domestic production of the L-33 self-propelled 155-mm gun.

(g) *Logistics*

The Israeli logistic system is streamlined and efficient and is manned largely by reservists. It depends heavily on support from the civilian economy. In theory supplies flow from base depots to the territorial commands, to the operational units. During wartime, supplies may be moved directly from General Headquarters depots to units, as the situation requires. Vehicle maintenance is accomplished at one of four echelons (battalion, division, territorial command, or national workshop) depending on the complexity of the job. Modern main-

tenance practices are followed, and maintenance personnel are highly skilled and very efficient. Overall, maintenance capabilities are impressive. Stockpiles are controlled and spares distributed through a modern computerized system. Soviet equipment, though less well supported, is maintained by the local production of some parts and by cannibalization of the large pool of unserviceable captured vehicles. In the field, spot shortages of all types are resolved through cannibalization. The logistics system is adequate for peacetime requirements and could support total mobilization for an estimated three to four weeks.* Outside assistance would be required to support a more protracted war. The IDF is expanding its transport vehicle inventory, and mobilization plans include provision for the use of as many civilian vehicles as are considered necessary.

(h) *Reserves and Mobilization*

There are regular units composed of regular cadre and conscript personnel and reserve units composed of reserve personnel and regular cadre. The army can increase or decrease active strength rapidly by calling up reserves assigned to units or by reducing units to cadre strength. It is possible to mobilize all manpower reserves to an estimated maximum requirement of 400,000 within a week. The civilian economy would be severely strained, however, if the maximum mobilization were maintained for more than three weeks. Forces of 175,000-200,000 could be maintained for several months without serious effects on the economy. There are three categories of mobilization alert: 24-, 48-, and 72-hour alert status.

During October 1973 Israel essentially began mobilization only four hours before the Arab attack. Peak mobilization reached about 350,000 including the 90,000 on duty at the opening of hostilities.

2. *Navy*

(a) *Capabilities*

The Israeli Navy is capable of:

(1) Successfully engaging enemy naval combatants.

(2) Landing elements of the Naval Commando Unit on hostile beaches.

(3) Protecting the national coastline from Arab naval attack.

(4) Transporting over 1,500 troops in the Gulf of Aqaba and the Gulf of Suez.

---

*Israeli ammunition stockpiles are thought to be sufficient to support conflict for three to four weeks. The key items in this assessment are shells for the 105-mm tank gun and the 155-mm howitzer. The stockpiles of these items are estimated to be at least 444,000 and 391,000 rounds, respectively. In the case of tank ammunition expenditures, the Israelis calculate a requirement of eight rounds/tank/day at "normal" conflict levels and 12 rounds/tank/day at "intense" levels. It is estimated that the expenditure rate during the October war was 4-5 rounds/tank/day. It appears that an expenditure rate of 12 rounds/tank/day is unrealistic, and that sustained intensive warfare would require expenditures at approximately eight rounds/tank/day. Using rates of five rounds/tank/day and eight rounds/tank/day and computing on the basis of 2,600 tanks, it is estimated that the 105-mm stockpile is sufficient for 21-34 days of combat. The IDF estimates that it will use 155-mm artillery ammunition at the rate of 33 rounds/tube/day at the normal level of combat and 50 at the intensive. The expenditure rate in the 1973 war was about 25 rounds/tube/day. Using rates of 40 rounds/tube/day and 25 rounds/tube/day, and calculating on the basis of 452 tubes, it is estimated that the Israelis have sufficient 155-mm stock for 21-34 days of combat.

(5) Providing logistic support to the army.

(6) Conducting very limited antisubmarine warfare.

The 18 SAAR-Class guided missile boats, equipped with Israeli-manufactured Gabriel surface-to-surface missiles, have provided the navy a superior weapon system against Arab ships and missile boats. These are the navy's principal combatants. Acquisition of US-manufactured SWIFT-Class patrol boats (modified to Israeli specifications and designated DABUR-Class) and indigenous production of these boats, have reduced the need to employ the SAAR missile boats in routine patrol operations and enhanced the navy's limited capability to protect its sea lines of communication. Air defense consists of antiaircraft guns on individual naval units. A mine countermeasures capability and a more effective and extensive antisubmarine warfare capability are subjects of current interest and development.

(b) *Personnel Strength*

4,500 (600 officers and 3,900 enlisted men, including an estimated 275 personnel assigned to the Naval Commando Unit) is the normal peacetime strength. This force is currently augmented by an estimated 500 mobilized reservists. An additional estimated 5,000 reserves are available for mobilization.

(c) *Organization*

The Officer Commanding is responsible to the Chief of the IDF General Staff for all matters affecting the naval forces. Operating forces are divided into four major commands:

(1) Haifa Base Command

(2) Ashdod Base Command

(3) Red Sea Command

(4) Naval Commando Unit

(d) *Deployment* (See Map IV)

(e) *Ship Types* (See Map IV)

(f) *Status of Equipment*

All ships are in excellent condition and are normally maintained in active operational status in a high state of readiness. The eighteen guided missile boats—twelve French-built SAAR II and III and six new longer-range Israeli-built SAAR IV—carry from five to eight Gabriel surface-to-surface missiles each. The first of six additional SAAR IV boats, on which local construction was scheduled to commence in April 1975, could be launched by late 1976 or early 1977. Indigenous construction of DABUR patrol boats is also adding to the inventory. Delivery of the first of three small 500-ton attack submarines currently under construction in the UK is projected for mid-1976.

(g) *Logistics*

Construction, repair, overhaul, and modification of naval craft is performed at Israel Shipyards, Ltd., and at the two naval repair shops in the port of Haifa.

Repair facilities also exist at Elat at the northern end of the Gulf of Aqaba. Attempts to develop an afloat logistic supply system which would enable the navy to conduct sustained operations away from home ports have been hampered by an inability to secure appropriate ships for this purpose. However, Israeli merchant ships could provide some afloat logistic support for small-scale combat operations.

(b) *Reserves and Mobilization*

There is a well trained reserve of about 5,000 (including 450 officers) plus an estimated additional 300 coast guard and civilian employees available for mobilization. The large majority of the reserves live and work in the port cities and can be mobilized in a matter of hours. Reserves mobilized in the 1973 war worked primarily in shore support functions.

3. *Air and Air Defense Force*

(a) *Capabilities*

The Israeli Air Force is the most combat effective air force in the Middle East. Although numerically inferior, it is operationally superior to any Arab air force or combination of Arab air forces. It has increased its attack-bomber and interceptor strength by 12 percent and has an improved munitions inventory of advanced air-to-air and air-to-ground missiles, guided bombs, and general purpose and cluster bombs. It is capable of:

(1) Defending Israeli air space against all Arab air forces.

(2) Maintaining air superiority over battlefield areas.

(3) Conducting offensive air operations over Arab lands.

The air defense fighter force is supplemented by the HAWK and CHAPARRAL surface-to-air missile (SAM) systems.

(b) *Personnel Strength*

Approximately 19,000, including 1,050 pilots (650 jet qualified), approximately 500 trainees and other aircrew personnel. There are approximately 17,500 ground personnel. Some 40 to 50 Israeli pilots are believed to have been lost in October 1973. Current pilot to jet aircraft ratio is about 1.5 to 1.

(c) *Organization*

The air force commander exercises command and control of operational squadrons through the seven subordinate wing commanders. There are 28 squadrons. Missile units are controlled directly from command centers.

(d) *Deployment*

The majority of operational aircraft are deployed to seven major airfields within Israel (one exception is Caen Naqb which is approximately 15 miles west of Elat) (See Map III). Small numbers of aircraft are deployed on a rotational basis to Sinai airfields such as Ras Nasrani and Bir Jifjafa for 30-day periods. The close proximity of Israel proper reduces the need for extended deployment to the Sinai. Missile units are deployed for point defense throughout Israel and the occupied territories.

(e) *Major Air Units*

Units	Aircraft	Principal Bases
5 fighter-bomber squadrons	F-4	Ramat David, Hatzor, Eqron, Hatzerim
4 fighter-interceptor squadrons	Mirage	Hatzor, Ramat David, Caen Naqb
8 attack-bomber squadrons	A-4, Super Mystere	Ramat David, Eqron, Hatzerim, Caen Naqb, Hatzor
4 transport squadrons	C-130, C-47, C-97, Boeing 707	Ben Gurion (Lod), Eqron
4 helicopter squadrons	Super Frelon, CH-53, Agusta Bell-205, Utility	Eqron, Hatzerim
1 training squadron	Fouga	Hatzerim
17 HAWK missile batteries	(6 launchers/36 missiles per battery)	
12 CHAPARRAL fire units	(1 launcher/12 missiles per unit)	

(f) *Status of Equipment*

The air force has at least an 85 percent operational combat aircraft capability as demonstrated during October 1973. The exceptionally high sortie generation rates of about 2.5 sorties per aircraft per day achieved during the last war, a low accident rate, and the capability to modify aircraft, attest to the excellent technical capabilities of ground personnel and Israeli Aircraft Industries (IAI).

(g) *Logistics*

The Israeli Air Force is dependent upon the US for most of its modern high performance aircraft. The air force logistic system is patterned after that of the US Air Force, but has been adapted to meet Israeli Air Force requirements. If the Israelis are successful in their efforts to standardize the inventory of aircraft to a few modern types, the present complex logistics will be simplified. Purchasing missions are maintained in several Western countries to facilitate procurement.

(h) *Reserves and Mobilization*

The air force is the only Israeli military force which can accomplish its mission without mobilizing reservists. However, approximately 5,000 reservists were mobilized during the October 1973 war. Depending upon the type aircraft assigned, units with older planes have an estimated 20-25 percent reserve strength; squadrons with newer aircraft have only about one percent. Air bases employ security forces composed primarily of reservists.

C. Arab States

1. *Egypt*

a. *Ground Forces*

(1) *Capabilities*

The Egyptian Army is the strongest of the Arab armies. All units are estimated to be combat ready with the exception of elements of one mechanized infantry division presently being reequipped and retrained. It can:

(a) Conduct a large-scale offensive with limited objectives against Israeli forces in the Sinai.

(b) Inflict heavy casualties on an Israeli invading force.

Assets include a large inventory of modern weapons, effective combined arms organization, good basic training and improved discipline.

Major limiting factors include:

(a) A general shortage of technically qualified manpower.

(b) A general lack of troop initiative and flexibility.

(c) A low level of tactical expertise and flexibility at higher command levels.

(2) *Personnel Strength*

Estimated at 300,000, but probably higher.

(3) *Organization*

Egypt is divided into eight military districts and the Suez Canal front which contains two field army areas. Each military district/field army commander is operationally responsible for all regular and paramilitary forces within his army area.

(4) *Deployment*

The majority of ground forces are deployed along the Suez Canal (see Map II).

(5) *Major Tactical Units*

Units	Unit strength
2 field armies	unk.
5 motorized infantry divisions[1]	17,200
3 mechanized infantry divisions	17,500
2 armored divisions	16,000
9 infantry brigades[2]	3,900
1 mechanized infantry brigade	3,900
3 armored brigades	2,500
1 presidential guard brigade (armored)	2,500
1 reconnaissance brigade	1,000
10 artillery brigades	900
1 paratroop brigade	unk.
3 paratroop battalions	500
2 airmobile brigades	unk.
3 airmobile battalions	675
5 commando groups (brigades)	unk.
30 commando battalions	350

[1] One brigade in each division is mechanized.

[2] Total less five special brigades equipped primarily for antitank operations.

(6) *Status of Equipment*

Major [illegible] are from the USSR and Czechoslovakia, and most of the October 1973 w[illegible] losses have been replaced by the USSR and Warsaw Pact nations. Equipment includes late model items, e.g., T-62 tanks, BMP armored personnel carriers, SCUD surface-to-surface missiles, FROG-7 rockets, and SAGGER antitank missiles.

(7) *Logistics*

Egypt is dependent upon foreign sources for all major equipment, parts, ammunition, and supplies. The army's logistic system appears to have functioned adequately during the October 1973 war. It probably could support a multi-division operation with the limited objective of attacking the western entrances to the Sinai passes, but it is doubtful that it could adequately support an offensive deep into the Sinai, which would involve the movement of supplies over long distances on roads vulnerable to air and ground interdiction. Based on the frequency and level of training exercises being conducted, it is estimated that the maintenance system has both the spare parts and personnel to maintain major ground force equipment in an operational status during extended periods of increased preparedness. It is probable, however, that shortages of spare parts would occur during intense hostilities. Equipment deliveries since the October war have included grenade and rocket launchers, antiaircraft guns, artillery, armored personnel carriers (APCs), medium tanks, and miscellaneous vehicles. A substantial amount of the APCs and medium tanks were the BMP and T-62 models. Ammunition stock levels are not known, but it is estimated that Egypt has sufficient stocks to sustain at least 15 days of combat operations without resupply. This judgment is largely based on the fact that Egyptian ground forces conduct frequent maneuvers and live fire exercises.

(8) *Reserves and mobilization*

Little is known about the Egyptian reserve system. There is a reserve pool of technicians and officers. Approximately 125,000 reservists were mobilized prior to the October 1973 war. Most have since been returned to civilian status. Up to battalion-size units can be called to active duty. The army is estimated to be able to equip one reserve infantry division without outside support.

b. *Navy*

(1) *Capabilities*

The Egyptian Navy is capable of-

(a) Deploying a strike force into the eastern Mediterranean or Red Sea capable of impeding merchant shipping.

(b) Providing limited defense of selected locations along the coast by patrolling or mining.

The Rocket Launch Brigade (guided missile patrol boats) is the best unit in the navy, but is unable to counter the Israeli SAAR boats. An interfleet transfer of naval units between the Mediterranean Sea and the Red Sea, carried out in late 1974 and early 1975 via the Suez Canal, substantially increased the strength of the Egyptian Red Sea Fleet and the recent opening of the canal has enhanced Egypt's naval mobility in peacetime.

(2) *Personnel Strength*

17,500. Includes 15,800 general service (3,500 officers, 12,000 enlisted), 1,700 special unit (150 officers, 1,550 enlisted).

(3) *Organization*

The Commander in Chief of the Navy is subordinate to the Chief of Staff, Armed Forces, and operates from Naval Forces Headquarters in Alexandria.

The naval staff consists of a number of directorates, departments, offices, and branches. Administratively, the fleet is organized into five brigades and two flotillas.

Brigades

1 destroyer (including patrol escorts)
1 submarine
1 rocket launch (guided missile patrol boats)
1 motor torpedo boat/fast patrol boat
1 special unit

Flotillas

1 minesweeper
1 antisubmarine (sub chasers)

(4) *Deployment* (See Map IV).

(5) *Ship Types* (See Map IV).

(6) *Status of Equipment*

Ships are predominantly of Soviet origin. The overall condition of the navy is fair; the material condition of many ships is poor and the deterioration rate is rapid. Egyptian naval leaders have indicated modernization will stress procurement of smaller, efficient units to replace major combatants.

(7) *Logistics*

The navy's logistic system is considered inefficient, especially in relation to those ships south of the Suez Canal where there are no major supply or repair bases. Shipyards in Alexandria provide routine maintenance and repair for all naval ships in the Mediterranean Fleet, but refit of destroyers and submarines is generally done at foreign yards.

(8) *Reserves and Mobilization*

There are about 1,500 organized reserves. All former naval personnel are subject to recall.

c. *Air Force*

(1) *Capabilities*

The air force, consisting of over 400 fighter aircraft, does not have the capability to defend Egyptian air space against the Israeli Air Force. It has:

(a) The only medium bombers in the confrontation states. These were successfully employed against Israeli targets in the 1973 war. The KELT-equipped TU-16's present a military threat to Israel, especially to ships, electronic emitters, and command and control sites.

(b) Demonstrated an improved close air support capability in 1973 in comparison to the 1967 performance. However, the effort during the October 1973 war resulted in losses out of proportion to its effectiveness.

(c) An experienced transport force capable of deploying between 3,000 and 3,800 troops by helicopter and 1,700 troops by transport in an initial airlift into the Sinai.

Major limiting factors include pilots of limited proficiency, aircraft maintenance difficulties compounded by insufficient technically qualified personnel,

and the wide dispersal of air units which are frequently relocated, thereby aggravating logistic support problems, and equipment diversity. Most of the air force's war losses had not been replaced by the end of 1974 leaving it at about 70 percent of its prewar strength. Beginning in February 1975, however, the USSR began to ship aircraft to Egypt. By 30 June 28 MIG-23s, 18 SU-20s, and 5 MIG-21s had been delivered. In addition Egypt has also acquired about 21 of 72 Mirage aircraft ordered from France.

(2) *Personnel Strength*

25,000 (6,000 officers, 19,000 enlisted), including 840 pilots (580 jet-qualified). This total includes 450 MIG-21/SU-7/SU-20 and at least 40 Mirage qualified pilots, and an undetermined number of pilots training for the MIG-23; 90 MIG-17 pilots were qualified for operations; an estimated 80 fighter pilots were in operational conversion/training units requiring 6-12 months additional training before becoming combat ready;* and at least 4 pilots/co-pilots were checked out in the C-130 transport. About 15 pilots have completed conversion courses to Lightning fighters in Saudi Arabia and Kuwait. Between 100 and 150 pilots were estimated to have been lost during the October 1973 war. Current pilot to jet aircraft ratio is about 1.5 to 1.

(3) *Organization*

There are four air divisions composed of 40 squadrons and two operational conversion units.

(4) *Deployment* (See Map III).

(5) *Major Air Units*

Units	Aircraft	Principal Base
3 medium bomber squadrons	TU-16A/C	See Note
12 interceptor squadrons	MIG-21 (mostly J)	
2 reconnaissance fighter squadrons	MIG-21R, SU-7	
4 fighter/bomber squadrons	SU-7/20	
4 ground support/interceptor fighter squadrons	MIG-15/17, Mirage	
2 medium transport squadrons	AN-12	Cairo
4 light transport squadrons	IL-14	Cairo/Almaza
8 mixed medium and heavy transport helicopter squadrons	MI-8 (HIP)	Cairo/Almaza, Imbabah, Cairo NW, Dekheylah, Luxor, Alexandria
	MI-6 (HOOK)	
	MI-4 (HOUND)	
	Westland Commando	
1 reconnaissance/liaison squadron	L-29	Alexandria
1 ASW helicopter squadron	MI-4/Westland/Sea King	Dekheylah
3 operational fighter conversion units	MIG-15/17/21	Gebel Al Basur, Daraw

Note: The tactical units are frequently redeployed, and a detachment of medium bombers is dispersed in Sudan. In addition to the above aircraft, each fighter squadron has 1-3 dual seat trainers assigned.

Principal bomber bases include: Aswan, Beni Suef, Gebel Al Basur, Jiyanklis New, and Cairo West.

Principal fighter bases: Al Mansura, Al Rahmaniya, As Salihiyah, Aswan, Az Zagazig, Beni Suef, Bilbeis, Birma, Cairo West, Daraw, Hurghada New, Inchas, Jiyanklis New, Luxor, Quweisna, Wadi Abu Shihat, Wadi Abu Rish, and Wadi Al Jandali. One MIG-17 fighter squadron is deployed in Syria.

*There are at least 36 aircrews for the medium bomber force.

(6) *Status of Equipment*

Most of the aircraft are of Soviet manufacture. Maintenance standards have improved, allowing the Egyptians to maintain 75 percent of aircraft assigned to squadrons operationally ready. However, aircraft maintenance is a problem due to periodic spare parts shortages, defective equipment, and limited numbers of technically qualified personnel, and increasingly sophisticated diversified equipment.

(7) *Logistics*

The wide dispersal and frequent relocation of the Egyptian air units present a logistic support problem, since the major air force repair and supply bases are located in the Cairo area. Although petroleum products are produced in Egypt, the air force is still dependent on the USSR for much of its aviation gasoline and jet fuel requirements. Bulk fuel storage facilities are located in the Alexandria port and Cairo areas; jet fuel and aviation gasoline are transported to the airbases by rail and/or truck. There are continuing shortages of jet fuel and spare parts because of the long supply line.

(8) *Reserves and Mobilization*

Little is known of the reserve system. An unknown number of reservists were recalled during October 1973. Civil aircraft and personnel are transferred to military control in emergency situations.

d. *Air Defense Force*

(1) *Capabilities*

Extensive coverage of Egyptian airspace is provided by the multiple surface-to-air missile (SAM) systems including some 75 SA-2b/c/e/f (GUIDELINE) units, 80 SA-3/GOA units, and 15 SA-6/GAINFUL units. The shoulder-fired heatseeking SA-7/GRAIL and the ZSU-23/4 self-propelled radar-controlled anti-aircraft gun provided supplemental air defense coverage. An extensive early warning radar/air surveillance (EW/ASV) network provides air warning data to all Egyptian forces through some 90 EW sites and radar filter centers. The network extensively employs a semiautomatic data transmission system for relaying tracking data.

This ground-based air defense system performed credibly during the early phases of the October 1973 war along the Suez Canal front. Its effectiveness was enhanced by the large number of missile firing units deployed and the volume and diversity of missile weaponry available. SAM units functioned well under the "free-fire" zone concept, downing about 40 Israeli aircraft in October, but were vulnerable to electronic jamming and interference difficulties. An unknown number of friendly planes were downed, at least partly due to a poor identification friend-or-foe (IFF) capability. The integration of ground-based air defense weaponry and interceptor aircraft into a truly effective and comprehensive air defense system, with a unified and efficient command and control structure, continues to be a problem for the Egyptian forces.

(2) *Personnel Strength*

80,000.

(3) *Organization*

Air defense is a military service separate from ground, naval, and air, but reportedly exercised operational control of all military assets committed to air defense. It consists of four air defense divisions, each responsible for a specific area. Almost 30 air defense (SAM) brigades have been identified within four divisions. Some brigades contain a mix of SA-2 and SA-3 missile firing and support battalions. SA-6 brigades contain only SA-6 battalions. One missile battalion equates to one US firing battery. Two brigades of air defense artillery are assigned to the field armies.

Early warning radar units are organized into radar regiments and battalions. Requirements are subordinate to the air defense divisions and function primarily as filter centers. Battalions are assigned to Early Warning (EW) and Early Warning/Ground Control Intercept (EW/GCI) sites. There is a close association with Control and Reporting Centers (CRC) of the air force and with field armies and military districts of the army.

(4) *Deployment* (See Map V)

(5) *Units*

Unit	Equipment per unit
75 SA-2 missile firing battalions	6 launchers/24 missiles
80 SA-2 technical support battalions	...
60 SA-3 missile firing battalions	4 twin launchers/24 missiles
15 SA-3 technical support battalions	...
15 SA-6 missile firing battalions	4 triple launchers/48 missiles
3 SA-6 technical support battalions	...
135 SA-7 missile firing platoons	6 tube launchers/24 missiles
17 radar regiments	...
75 radar battalions	...
120 ADA regiments/battalions	...

(6) *Status of Equipment*

Most early warning radars, conventional ADA, and all SAM equipment and target acquisition radars are of Soviet manufacture. Egyptian air defense weaponry is among the most modern in the world. Maintenance of the equipment is considered good.

(7) *Logistics*

Replacement parts and ammunition are imported. Improvement in the maintenance and logistic support has resulted from the completion of hardened support facilities throughout the country. No new Soviet deliveries of SAM equipment has been evident in over a year. There is some evidence of a shortage of missiles.

(8) *Reserves and Mobilization*

Some reservists are known to have been called up in October 1973.

2. *Syria*

a. *Ground Forces*

(1) *Capabilities*

The Syrian Army has only a limited offensive capability against Israel. As demonstrated during October 1973, an Israeli offensive into Syria could be

expected to meet determined disciplined resistance from forces entrenched in a well-developed system of field fortifications. The Syrian Army has reequipped, retrained and refitted and it is estimated that the army would give a better account of itself today than it did in October 1973. Major weaknesses include poor leadership, a highly politicized officer corps which is repeatedly subjected to purges, insufficient numbers of trained and skilled personnel, an overcentralized command and control system, and an inadequate logistics and maintenance organization. Major assets include a large inventory of modern weapons, the ability to conduct a determined defense, and good basic training and improved discipline.

(2) *Personnel Strength*

200,000. An unknown number of reserve personnel were assigned to regular units during the war. The pool of trained manpower is estimated at 300,000.

(3) *Organization*

The army is organized on a brigade/division concept. Currently, five divisions control the operations of 20 combat brigades. A sixth division, probably armored, may be in the process of formation. Divisions and independent brigades are under the operational control of army headquarters. Syrian Army tactical doctrine is similar to that of the pre-nuclear Soviet Army, with modifications to fit Syria's needs and resources. It is characterized by lack of flexibility and imagination, and emphasizes fire power, mechanization, and mobility.

(4) *Deployment*

Normally the major portion of the Syrian Army is deployed in an extensive system of static defenses south of Damascus, covering the most likely axis of an Israeli advance. As of June 30, 1975, major elements of at least two armored divisions were deployed to central and eastern Syria to counter any hostile moves by Iraq generated by the controversy between the two governments over water rights to the Euphrates River.

Full-scale field deployment in the area south of Damascus is very difficult to maintain during the winter because off-road mobility is severely reduced by soft soil conditions.

(5) *Major Tactical Units*

Units	Authorized strength per unit
2 armored divisions	11,000
3 infantry divisions	17,000
2 armored brigades	2,800
1 armored defense force	unk.
4 infantry brigades	3,500
2 artillery regiments	1,100-1,300
1 multank regiment	700
2 artillery rocket regiments	1,100
2 coastal defense brigades	1,000
1 border guard brigade	2,600
8 commando battalions	350
4 airborne battalions	450
2 reconnaissance battalions	500

(6) *Status of Equipment*

The army suffered heavy losses in equipment during the October 1973 war. Large quantities of replacement tanks and APC's have been provided by the Soviet Union, and integrated into units. The provision of significant quantities of modern arms such as the T-62 tank, BMP armored personnel carrier, ZSU-23/4 air defense weapon, and the BRDM-2 armored reconnaissance vehicle mounting the SAGGER anti-tank guided missile has improved both offensive and defensive capabilities. The Syrians are also acquiring some self-propelled artillery (T-34 tank chassis mounting a 122-mm howitzer).

(7) *Logistics*

During the 1973 war, the logistic system performed credibly when supported units were in relatively static positions, but was not successful in supporting units on the move. Stocks of ammunition and supplies are believed to have been largely replaced by Soviet resupply. Reports of training exercises, firing-range activities and maneuvers indicate that there is no shortage of ammunition. Ammunition stores are maintained at company, battalion, and brigade levels and at fixed field depots. Field maintenance and support capabilities are poor and could not effectively support combat operations over extended distances. Theoretically, maintenance takes place at unit, brigade, division, and army levels. Repair priority is given to armored vehicles and air defense artillery. It is believed that most repairs must be accomplished at the army level due to shortages of skilled maintenance personnel. It is estimated that the Syrian Army possesses sufficient stocks of spare parts and ammunition to sustain an intensive level of combat for two to three weeks.

(8) *Reserves and Mobilization*

Organized reserves consist of 10-13 infantry battalions with the primary mission of defending Damascus; strength and equipment is unknown. It is believed that Syria could mobilize at least 50,000 men within 15 days. Civilian vehicles would be requisitioned for military use as was the case in October 1973.

b. *Navy*

(1) *Capabilities*

The Syrian Navy is not an effective fighting force. Capable of coastal patrol operations and limited support to ground force operations, it cannot defend the national coastline. Its potential capabilities in minesweeping, anti-submarine warfare, frogman operations, and torpedo attack have not been developed. Guided missile boats comprise the navy's only significant offensive capability and could pose a threat to eastern Mediterranean shipping; however, this capability has not been demonstrated.

(2) *Personnel Strength*

2,000 (includes an estimated 900-man coastal artillery brigade and a 40-man underwater demolition unit). The navy lacks technically trained personnel and is heavily dependent on Soviet and other foreign advisors.

(3) *Organization*

The Syrian Navy is part of the army organization which provides administrative, logistic, medical, and communications services. There is no formal naval

headquarters staff. The Commander of the Navy, who holds the army rank of brigadier general, is headquartered at Latakia and is operationally subordinate to the senior army commander in the Latakia district. The main operating base is located at Al Mina al-Bayda and ships are also based at Latakia, Banlyas, and Tartus. There is no discernible afloat organization.

(4) *Deployment* (See Map IV)

(5) *Ship Types* (See Map IV)

(6) *Status of Equipment*

Syrian units are maintained, under Soviet direction, in good condition and can be considered operationally ready most of the time. With the exception of an old French-built small submarine chaser, all Syrian naval combat units are of Soviet origin. Future acquisition of Soviet boats (OSA, KOMAR, and P-6) can be expected.

(7) *Logistics*

Syria has no shipbuilding capability. Minor repairs to naval ships are performed at Latakia, Tartus, and Mir al-Bayda. Major repairs must be accomplished in foreign shipyards. Spare parts, ammunition, and supplies are probably maintained for no more than 30 days of operations, and disruption of the import flow would seriously reduce the navy's operating capability. Soviet personnel assist in both ashore and afloat training—particularly in that involving maintenance and operating of ships of Soviet origin.

(8) *Reserves and Mobilization*

There is no known naval reserve organization.

c. *Air and Air Defense Force*

(1) *Capabilities*

The capability of the Syrian Air Force to effectively employ its aircraft in either the air defense interceptor or ground attack support roles continues to be marginal though it has improved somewhat since the October 1973 war. Ground-based air defense capabilities are judged as fair to good based on the credible performance of the Syrians in the early phases of the war and further improvement since that date.

(2) *Personnel Strength*

30,000 total; about 15,000 in air units, headquarters, and control centers (including 600 pilots, 440 jet qualified); about 15,000 in ground-based air defense (principally missile and radar units). Current pilot to jet aircraft ratio is approximately 1 to 1. About 50 foreign pilots (North Korean and Pakistani) fly Syrian aircraft.

(3) *Organization*

The Commander of the Air Force, directly subordinate to the President and only nominally subordinate to the Defense Minister, exercises direct operational control of all aircraft, missiles, and radar units. Aircraft squadrons are organized into seven air brigades and air defense missile battalions into eight missile brigades. The Air Defense Command is part of the Syrian Air Force

and is the apparent command and control element for all air defense weaponry in the Syrian forces.

(4) *Deployment*

See (5) below and Maps III and VI.

(5) *Major Units*

Units	Aircraft	Principal Bases
11 interceptor squadrons	MIG-21, MIG-23	Khalkhalah, Marj Rahayyil, Dumayr, An Nasiriyah, Al Qusayr, Hamah, Abu ad Duhur, Palmyra, Seyqal
10 ground attack squadrons	MIG-23, MIG-17, SU-7/20	Seyqal, Mezze, Marj Rahayyil, Tabaqah, Deyr ez Zewr, Tiyas, Shayrat (Dagbdagban)
1 reconnaissance flight	MIG-21	Dumayr
4 helicopter squadrons	MI-8, SA-321, MI-2/4	Marj as Sultan, Qabr as Sitt, Hamah, Hmaymim
1 transport squadron	AN-12/24, IL-14	Mezze
1 training brigade	L-29, DHC-1, YAK-18T, UMIG-21/15, USU-7	Nayrab, Basin El Aboud, Jirah
15 SA-2 battalions	---	Damascus-Southwest Syria area, Zilme
12 SA-3 battalions	---	Damascus-Southwest Syria area
30 SA-6 battalions	---	Damascus-Southwest Syria area
8 radar battalions	---	Mezze, Hamah

(6) *Status of Equipment*

The Syrian Air Force is dependent upon the Soviet Union and East European countries for aircraft, aviation ordnance and armament, missiles, radars, and electronic equipment. The operational MIG-21 inventory is believed to be primarily composed of newer model FISHBED D (Modified Export) and FISHBED J (Export) aircraft as a result of almost 200 MIG-21 deliveries since the beginning of the October 1973 war. Syria has also received the SU-20/FITTER C and the MIG-23/FLOGGER since 1973 which has significantly improved the quality of its aircraft inventory. Overall status of equipment is considered only fair. Aircraft utilization is known to be low in an attempt to maintain acceptable serviceability rates. The equipment status of air defense missiles, radars, and communications equipment is fair to good, largely as a result of the extensive Soviet advisory/technical role.

(7) *Logistics*

The air force logistic system is not capable of supporting sustained combat operations. The rapid influx of large quantities of sophisticated air and air defense equipment has severely taxed the limited manpower base of technically qualified personnel. Support and logistical units are inefficient and of limited effectiveness and have forced reliance on Soviet advisory/technical personnel, especially in air defense missile units. The air force is handicapped by an inadequate inventory of helicopters and transport aircraft.

(8) *Reserves and Mobilization*

Little is known of the reserve/mobilization system, but it is probable that technician and support personnel are maintained on some type of reserve status.

3. *Iraq*

a. *Ground Forces*

(1) *Capabilities*

The Iraqi Army has limited offensive capabilities. Iraq's participation in the October 1973 war demonstrated the ability to move a large number of troops (an estimated 38,000 men) and sizeable quantities of equipment from Iraq to southwest Syria. The combat effectiveness of the force ranged from poor to good, but was hampered by deficiencies in command and control, and an inadequate logistical support system. The army's subsequent performance in the Kurdish conflict, however, reflected some improvement in organization, operational planning, fire support, and logistic coordination. It is capable of maintaining internal security.

(2) *Personnel Strength*

135,000.

(3) *Organization*

The division is the basic tactical unit. There are currently ten divisions—two infantry, three mountain infantry, three armored, and two reserve infantry divisions organized during the recent Kurdish conflict. Each infantry division probably has two infantry brigades and one mechanized brigade; each mountain infantry division consists of two or three mountain brigades; and each armored division is composed of two armored brigades and one mechanized brigade. There are indications that Iraq plans to eventually mechanize the two regular infantry divisions. Each division has attached combat support and combat service support units. In addition, there are also general headquarters (GHQ) units that provide combat, technical, and service support for line units.

(4) *Deployment*

Iraqi ground units are stationed in eastern Iraq on the eastern half of the Fertile Crescent, the great arc of semiarid grassland extending from Mosul to the head of the Persian Gulf.

(5) *Major Tactical Units*

Units	Estimated Unit Strength
2 infantry divisions	15–17,000
3 mountain infantry divisions	13–15,000
2 reserve infantry divisions	7–10,000
3 armored divisions	12,500
1 special forces brigade	4,500
1 Republican Guard mechanized brigade	4,400
General Headquarters units	unk.

(6) *Status of Equipment*

Approximately 90 percent of the army's equipment is of Soviet and East European origin; however, there are indications of recent interest in West European arms markets. Iraq has a substantial inventory of modern ground weapon systems, including T-62 and T-54/55 tanks, SU-100 and JSU-152 assault guns, BTR-40/60 and BMP armored personnel carriers, FROG-7 rockets, field artillery pieces, and an assortment of mortars, rocket launchers, and recoilless rifles.

Despite the impressive display of sophisticated weaponry, the Iraqi Army has not been able to employ it to its full advantage and has been described as being "overstocked and underskilled."

(7) *Logistics*

Iraq is almost totally dependent upon foreign sources (almost exclusively Soviet and East European) for military hardware and logistical assistance. It is estimated that stocked equipment and munitions would be adequate for about 15-30 days of combat, depending on intensity. Although the quick movement of the Iraqi expeditionary force to the Syrian front during the October war surprised most observers for its rapid pace, it was greatly hampered by a lack of tank transporters. The army has since acquired sufficient transporters to move a complete armored division and is currently attempting to obtain additional transporters to equip the other two armored divisions.

(8) *Reserves and Mobilization*

There is no known mobilization plan for the Iraqi Army, but Baghdad did call up some reserves during the October war. Details and the extent of this mobilization are not known. The Kurdish rebellion in northern Iraq required the government to call up an estimated two-thirds of the Iraqi reserve pool of 35,000 men in April 1974. The 6 March 1975 Iraq/Iran accord will provide Iraq the opportunity to return some active duty reservists to civilian status.

	Estimated Mobilization
M-Day	135,000 personnel
M+30	160,000 personnel
M+60	200,000 personnel

b. *Navy*

(1) *Capabilities*

The Iraqi Navy is capable only of conducting small-scale operations and limited harassment actions with its ten OSA-Class large guided missile boats in the Persian Gulf. Torpedo boat, guided missile boat, antisubmarine, and mine warfare capabilities are limited.

(2) *Personnel Strength*

3,000. Officer billets are filled by officers detailed from the army, thus precluding the development of a nucleus of trained naval officers. About 20 Soviet advisors are believed to be working with the navy.

(3) *Organization*

The Commander of the Navy is subordinate to the Chief of the General Staff of the Armed Forces. The chain of command runs from the Commander of the Navy to the commanders of the operational units; there is no known afloat organization.

(4) *Deployment*

Naval headquarters and the chief naval center are at Basra. A secondary naval base is located at Umm Qasr, an important military/commercial port that is currently being expanded. There are five army coastal artillery battalions,

one air defense battalion, and one light air defense battery under the command and control of the navy.

(5) *Ship Types*

large guided missile boat (PTFG)	10
small submarine chaser (PCS)	3
motor torpedo boat (PT)	12
patrol boat (PB)	6
river gunboat (PR)	4
minesweeper (MSF/MSI)	2/3
auxiliaries	7

(6) *Status of Equipment*

Many of the older ships are not well maintained and some are obsolescent and unseaworthy. The newer ships, however, are apparently well serviced and in good condition.

(7) *Logistics*

The navy has only a limited procurement system and relies on the army for logistic support. Nearly all naval materiel must be imported, and replacement parts are scarce. Commercial firms provide major repairs.

(8) *Reserves and Mobilization*

There are no known reserves or plans for mobilization.

c. *Air and Air Defense Force*

(1) *Capabilities*

The Iraqi Air Force has a ground support and strategic bombing capability. Some proficiency has been gained during recent operations against the Kurdish dissidents. The ability of the air force to operate against the Israeli or Iranian Air Force is considered poor. Inexperienced ground and aircrews, poor logistic support, and dependency on foreign assistance limit effectiveness. The limitations of the air defense system have been recognized; improvements have been made to the early-warning radar system and increased emphasis has been placed on SAM training and SAM site construction. At least 20 early warning/ground-control-intercept radar sites provide good coverage of Iraq's air space and up to 150 nautical miles of western Iran.

(2) *Personnel Strength*

11,000 including 400 pilots (210 jet qualified). There are an estimated 500 Soviet air and air defense advisors and about 115 advisors from Czechoslovakia, India, Pakistan, France, and Egypt in Iraq.

(3) *Organization*

The Commander of the Air Force is subordinate to the Chief of the General Staff of the Armed Forces. The tactical squadrons are directly controlled by Iraqi Air Force headquarters in Baghdad.

(4) *Deployment*

Iraqi Air Force squadrons are generally deployed in the central, northern, and eastern parts of the country.

(5) *Major Air and Air Defense Units*

Units	Aircraft	Principal bases
3 all-weather fighter/interceptor squadrons	MIG-21, all weather	Habbaniyah Plateau, Rashid
9 fighter squadrons	MIG-21, MIG-23, MIG-19, MIG-15/17, SU-20, Hawker Hunter	Habbaniyah Plateau, Kirkuk, Kut, Mosul, Rashid
2 bomber squadrons	TU-22, TU-16, IL-28	Habbaniyah Plateau
9 helicopter squadrons	MI-8, MI-6, MI-4, Alouette III	Baghdad/Taji, K-1, Kirkuk, Mosul, Mathanna
2 transport squadrons	TU-124, AN-24, AN-12, AN-2, Bristol, Heron	Mathanna
1 conversion squadron		Tammuz
9 SA-3 firing units		Baghdad (4) and Habbaniyah Plateau (3) areas
6 SA-2 firing units		Baghdad
SA-6 firing units		Equipment for 10 SA-6 units has been received, but is not operational
21 army ADA batteries		Dispersed around major airfields and installations

(6) *Status of Equipment*

Strike aircraft are of Soviet manufacture, although some British Hawker Hunters are still in use. Some trainer aircraft and helicopters have been purchased from Czechoslovakia and France, respectively. The lack of technical expertise and a dearth of spare parts limit effectiveness. An unknown quantity of the shoulder-fired SA-7/GRAIL air defense missiles has been received.

(7) *Logistics*

Some logistic and technical support is provided by the army, but most comes from the USSR. The logistic system for the air force, as for the army, is characterized by weaknesses in maintenance and supply and dependence on foreign assistance (primarily the Soviet Union) for aircraft, air defense weaponry, and related equipment.

(8) *Reserves and Mobilization*

There are no known plans for air force mobilization or the creation of a reserve.

4. *Jordan*

a. *Ground Forces*

(1) *Capabilities*

The Jordan Arab Army (JAA) is capable of maintaining internal security, but could not defend Jordan against a full scale attack by Israel. During the October 1973 war, two Jordanian armored brigades were sent to support Arab forces on the Syrian front, but only one brigade participated in actual combat. The brigade performed well and suffered minor losses. The army's major limitations are inadequate command and control, lack of modern weaponry, especially air defense, and advanced technical training, and insufficient combined arms training.

(2) *Personnel Strength*

63,000.

(3) *Organization*

The army is composed of five divisions, two air defense artillery brigades, and a special forces brigade. The basic tactical unit is the brigade; there are seven infantry, two mechanized, two air defense, one special forces, and six armored brigades.

(4) *Deployment*

The majority of ground forces are deployed in northwestern Jordan, with the exception of one mechanized infantry brigade located in Aqaba and a 5,000-man Saudi Arabian brigade with headquarters at al-Karak. (See Map II).

(5) *Major Tactical Units*

Units	Unit strength
2 infantry divisions	12,000
2 armored divisions	10,200
1 mechanized infantry division	11,000
2 air defense artillery brigades	1,000
1 special forces brigade	1,100

(6) *Status of Equipment*

Major items are from the US and the UK. US equipment includes medium tanks, towed and self-propelled guns and howitzers, antitank weapons, small arms, armored personnel carriers, and antiaircraft guns. British equipment includes Centurion medium tanks, light artillery pieces, armored and scout cars, Saracen armored personnel carriers, and Landrover vehicles. Unit level maintenance varies from adequate to good.

(7) *Logistics*

Except for petroleum and some fabric products, Jordan depends on foreign sources for military weapons and supplies. The logistic system for the issue and transport of supplies, ammunition, and petroleum products is inadequate. The planned three-day basic load of supplies and ammunition varies greatly with the individual units.

(8) *Reserves and Mobilization*

Jordan has no formal reserves. In time of emergency 12,000 former members of the Popular Resistance could be mobilized and equipped as individual replacements. In addition, the 5,700-man Public Security Force is placed under the control of the armed forces during times of crisis.

b. *Navy* (Coast Guard)

The Coast Guard has no combat capability, but is capable of performing routine patrols in the Gulf of Aqaba. It consists of 200 personnel and three patrol craft.

c. *Air Force*

(1) *Capabilities*

The Royal Jordanian Air Force does not have the capability of successfully defending against air attack by Israel. It is severely limited by inadequate

numbers of aircraft, a shortage of combat-qualified pilots, ineffective air defense artillery, and an inadequate logistic system. A marginal early warning capability is available, but the radars are not effective against low-flying targets. The air force has a ground support capability.

(2) *Personnel Strength*

4,600 (400 officers, 4,200 enlisted), including 110 pilots (70 jet qualified, 25 helicopter qualified).

(3) *Organization*

The air force has three unnumbered wings composed of six squadrons, a Royal Flight and radar units.

(4) *Deployment* (See Map III).

(5) *Major Air Units*

Units	Aircraft	Principal Base
1 fighter squadron	F-5A/B	King Hussyn
1 fighter squadron	F-5B/E	Prince Hasan
1 fighter interceptor squadron	F-104A/B	Prince Hasan
1 training squadron	T-37	King Hussyn
1 transport squadron	C-119K, C-130, Dove	Amman International
1 helicopter squadron	Alouette	Amman International
Royal Flight, radar units (early warning and ground control intercept)	Alouette	Amman International

(6) *Status of Equipment*

Aircraft are of US, UK, and French origin, are in good condition, and are well maintained. The in-commission rate for jet fighters is 70 to 75 percent.

(7) *Logistics*

Jordan is not self-sufficient logistically; however, the supply and maintenance systems in-country are considered effective. Most supply and maintenance personnel above the grade of corporal have received training in the country providing the weapons systems. The air force endeavors to maintain a six-month supply of spare parts, but frequently must cannibalize due to slow deliveries. There is an estimated 30-day supply of fuel, which is refined in-country. The 20-mm ordnance supply is 30 days.

(8) *Reserves and Mobilization*

None.

5. *Lebanon*

a. *Ground Forces*

(1) *Capabilities*

The Lebanese Army has no effective offensive or defensive capability against Israel. Recognizing this, it is oriented to border surveillance and the maintenance of internal security. The army leadership no longer considers the army capable of successfully challenging the fedayeen with any assurance of victory; the army could control the countryside, but would experience strong resistance in urban areas, particularly Beirut.

(2) *Personnel Strength*

17,200.

(3) *Organization*

The army is reorganizing into five brigades to replace the regional commands. Three infantry brigades have been formed, the two additional infantry brigades are to be formed by 1980. Three new air defense brigades are planned.

(4) *Deployment*

The largest concentration of units is in the south where they are deployed on a rotational basis.

(5) *Major Tactical Units*

Units	Unit strength
3 infantry brigades	3,500
2 infantry battalions	750
1 tank battalion	600
2 reconnaissance battalions	600
1 artillery battalion	470
2 commando battalions	370
1 air defense artillery battalion	550

(6) *Status of Equipment*

Major items are from Western sources. Maintenance standards throughout the army are very good as a result of the necessity to keep old equipment operable. In an effort to improve the army's capabilities, since 1972 Lebanon has purchased tanks, artillery, M-16 rifles, and APC's from the US; tanks, APC's, artillery, and armored cars from France; armored cars, tanks, and air defense artillery from UK; and rifles from Belgium. Lebanon has made no contracts with the Soviet Union since the purchase of 28 Soviet 122-mm howitzers in 1971. In 1973 Lebanon received some used Soviet equipment from other Arab nations—air defense guns from Libya and field artillery from Syria.

(7) *Logistics*

Lebanon relies upon foreign sources for most items of supply and all major equipment. Except for ammunition, stocks are small. The logistic system would not be capable of adequately supporting the armed forces in time of war, but functions efficiently in peacetime.

(8) *Reserves and Mobilization*

There is a pool of 12,350 reservists comprising all students who receive military training in their second undergraduate year of school. Without outside logistic support, approximately 4,000 troops could be mobilized by M+15. If additional arms and equipment were available, 10,000 troops could be mobilized by M+30.

b. *Navy*

The small 300-man navy has no effective combat or coastal patrol capabilities. It is totally dependent on foreign assistance for development. Navy headquarters is located at the naval operating base at Juniyah (See Map IV). Equipment includes patrol craft of French origin and a minor amphibious craft of US

origin. The navy has contracted to purchase three patrol boats from the Federal Republic of Germany. The navy relies on commercial facilities in Beirut for engine and hull repairs.

c. *Air and Air Defense Force*

(1) *Capabilities*

The air force possesses no offensive capabilities and could provide only token defense against neighboring air forces.

(2) *Personnel Strength*

1,300 (120 officers; 1,180 enlisted), including about 75 pilots (all jet qualified and in varying stages of combat readiness on the Mirage aircraft; 30 helicopter-qualified), eight student pilots, and 1,200 ground personnel. At least 12 pilots and 50-75 maintenance technicians have received Mirage-III training in France.

(3) *Organization*

The air force is organized into six squadrons.

Units	Aircraft	Principal Base
1 fighter interceptor squadron	Mirage III	Kleiat
1 fighter/bomber squadron	Hawker Hunter	Riyaq
2 helicopter squadrons	Alouette, AB 205	Beirut International
1 training squadron	Chipmunk, Vampire, Fouga Magister	Riyaq
1 radar squadron	...	...

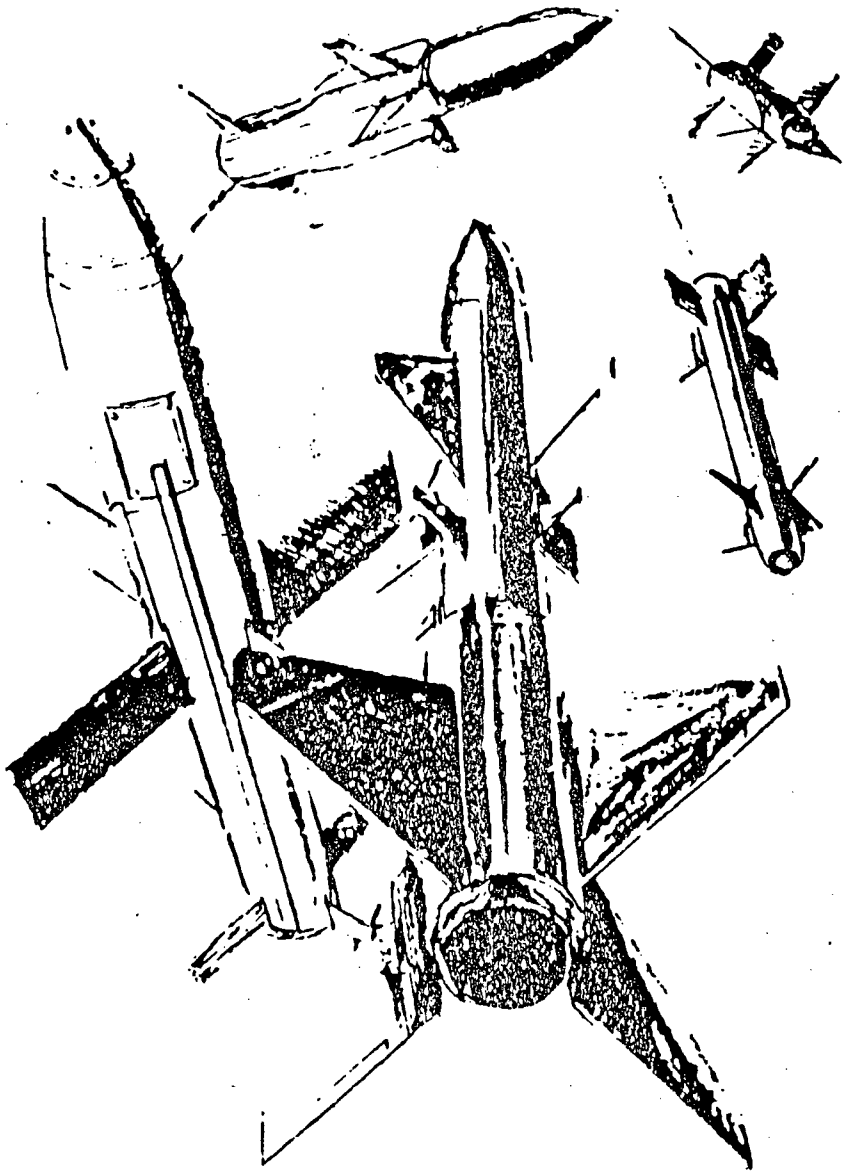
(4) *Deployment* (See Map III)

(5) *Status of Equipment*

Current operable combat aircraft consist of Mirage III and Hawker Hunter [illegible]. Good maintenance is provided by foreign trained mechanics, but aircraft are frequently grounded for lack of spare parts, poor planning, and dependence on the army for administrative support.

(6) *Logistics*

The air force is dependent upon foreign sources, primarily the UK and France, for aircraft and related equipment. The supply system is primitive and inefficient. Approximately two months supply of jet fuel and aviation gasoline is maintained at Beirut International Airport by commercial petroleum companies.



III. ADVANCED WEAPONS DEVELOPMENT

A. Israel

1. *Missiles*

Development of Israel's ballistic missile, the Jericho, began in France in 1960, and was transferred to Israel in 1968. The characteristics of the Jericho probably are essentially the same as those in the French design except for the inertial guidance system. The Israelis replaced the original French system with their own.

The Israelis have constructed a number of major facilities for missile production, testing, and deployment to support the Jericho and other missile programs. These include a solid-propellant motor research and development facility, propellant production and test facilities, and a missile assembly and checkout plant.

The Jericho is a mobile, two-stage, solid propellant ballistic missile system that has both tactical and strategic importance in the Middle East. This short range missile is about 45 feet long, weighs almost 15,000 pounds, and has a reentry vehicle that probably weighs about 2,200 pounds. Its maximum range is about 280 nautical miles, and its circular error probable (CEP) at this distance is estimated to be about 0.5 nautical miles.

While the current status of Israel's SRBM program is uncertain, sufficient time has elapsed since acquisition of the French MD-620 missile system for them to have completed their development program and to have begun limited production.

[redacted]

Concurrently with this program, the Israelis began acquiring a native capability for developing and producing rocket motors. Moreover, the Israelis could be developing an improved missile that would have considerably greater strategic importance in the Middle East.

[redacted]

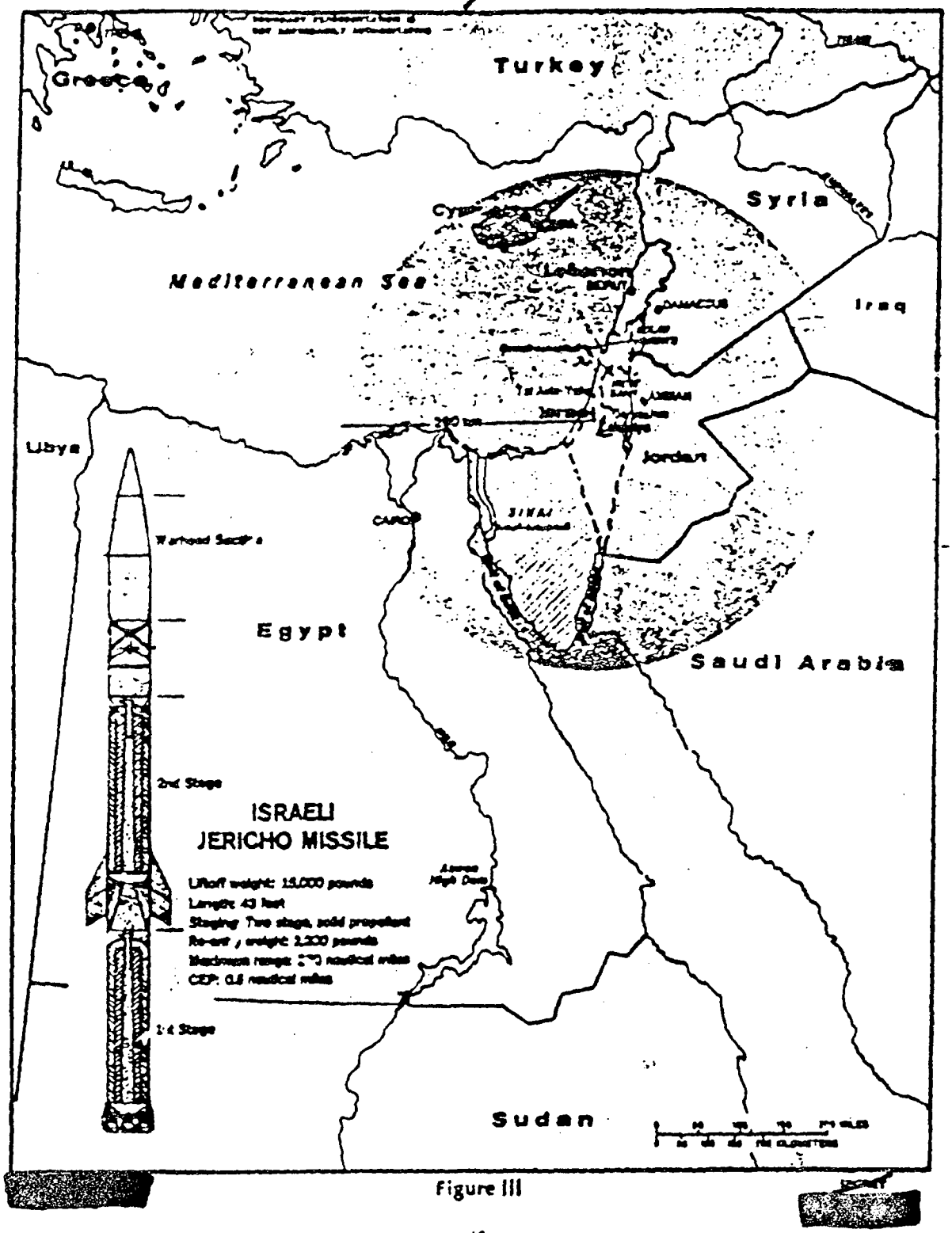
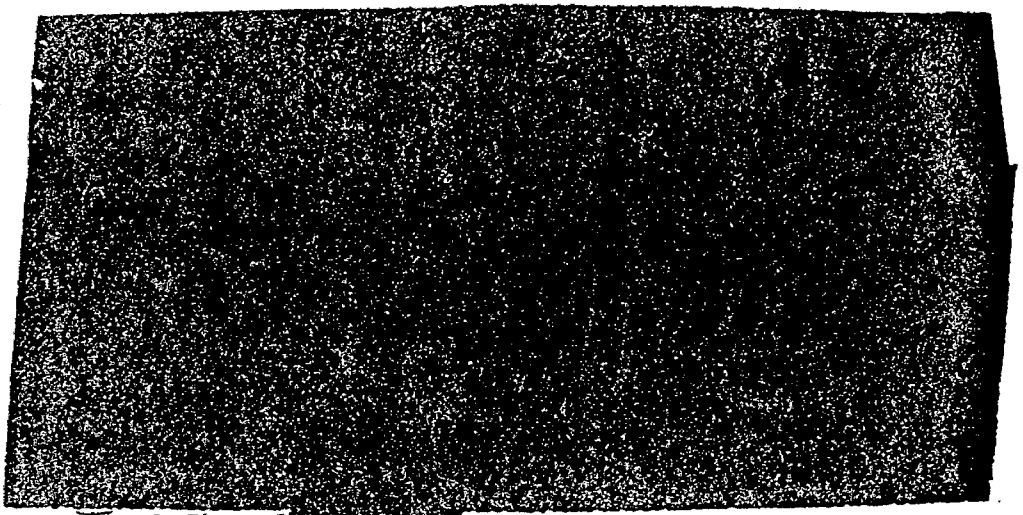
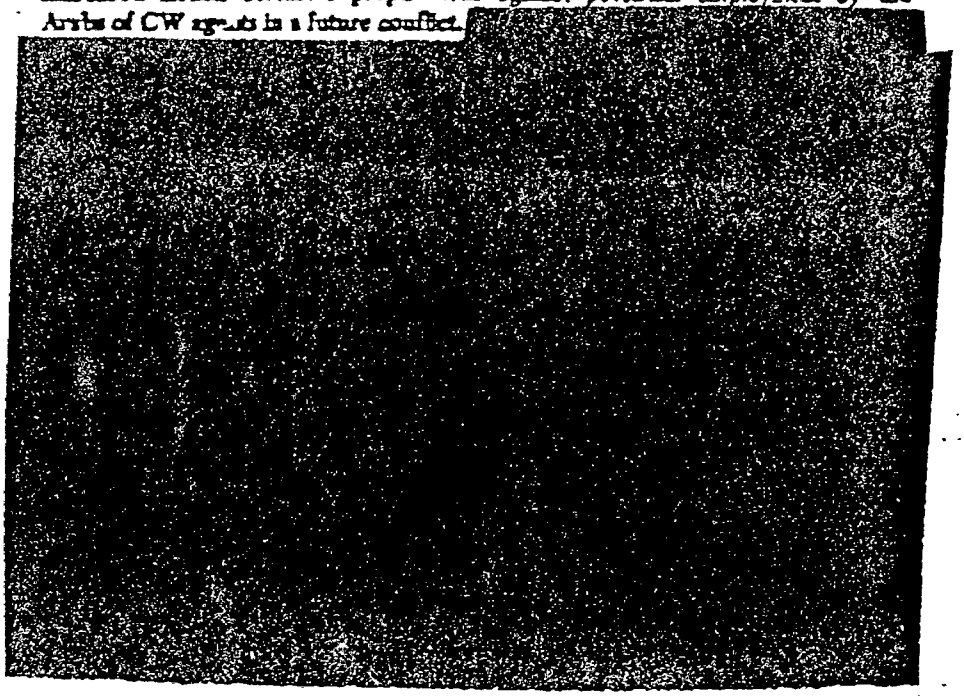

Turkey
Greece
Syria
Mediterranean Sea
Iraq
Libya
Jordan
Egypt
Saudi Arabia
Sudan
ISRAELI
JERICHO MISSILE
2nd Stage
1st Stage

Figure III



3. Chemical

The extensive deployment of high quality CW protective equipment by the Egyptians and Syrians during the October war has resulted in significantly increased Israeli defensive preparations against potential employment by the Arabs of CW agents in a future conflict.



B. Egypt

1. Missiles

Egypt has no known program to develop surface-to-surface ballistic missiles. Its efforts to develop short range ballistic missiles were terminated after the 1967 war; despite many years of work and tens of millions of dollars the

program was unsuccessful. It is unlikely that this program could be revived since the technology is obsolete and the necessary technical skills are unavailable in Egypt. With the acquisition of SCUD ballistic missiles and FROG rockets from the Soviet Union, Cairo has even less incentive to develop its own missiles.

Egypt's programs to develop air-to-air and air-to-surface missiles also have failed. Cairo has relied on Moscow for these types of missiles in the past, and if the Soviet supply should end, Egypt would be forced to look to other foreign sources.

2. *Nuclear*

Egypt is not capable of developing nuclear weapons with its own resources. Properly safeguarded reactors would not significantly improve its ability to build nuclear weapons.

3. *Chemical and Biological*

The Egyptians used both harassing and lethal agents in Yemen (Sana) during 1963-67, but they did not employ them during the October 1973 war. Egypt's concern about the possible Israeli use of such agents in the war was evident from the large amount of Soviet protective equipment which was distributed among its ground forces.

[redacted]

Although Cairo has shown concern about the use of CW in future hostilities, the civilian population is virtually without protection from a chemical attack. [redacted] Egypt apparently is depending on a "no first use" policy and the threat of retaliation to act as a deterrent.

President Sadat stated that Egypt has stocks of biological weapons, but would only use them in retaliation for an Israeli BW attack. Egypt's pharmaceutical and biological research facilities could produce limited amounts of selected BW agents, but little evidence is available about the existence of an Egyptian BW capability.

C. Syria

1. *Chemical and Biological*

Syrian ground forces are equipped with good quality Warsaw Pact manufactured CW protective equipment. [redacted] Although the military possesses CW protective equipment, the civilian population is unprepared for a chemical attack. There is no information to indicate that Syria possesses offensive CW agents or the means to deliver them.

There is no information concerning a BW program in Syria.

D. Iraq

1. *Chemical and Biological*

During Iraq's conflict with the Kurds, Iraq strove to obtain an offensive CW capability independent of Soviet influence. Iraq's efforts included the purchase of a nerve agent production system, and the country made several unsuccessful attempts to purchase the raw materials from foreign countries. Iraq has established a CW research center [redacted]

The Soviets have provided a wide variety of CW protective equipment to Iraq and have trained Iraqi ground forces in the use of the equipment. Although the military seems to be adequately protected against a CW attack, the civilian population is not.

There is no information concerning a BW program in Iraq.

PAGE #

- 50

BLANK

THE ARAB-ISRAELI HANDBOOK SUPPLEMENT

I. MILITARY AID FROM COMMUNIST COUNTRIES

A. General

Communist arms diplomacy continued to focus on Arab States in 1974-75. The Soviet Union was the top donor and Syria and Iraq were the chief recipients. Moscow offered no new military aid to Egypt in 1974, a dramatic turnaround from 1973 when Moscow extended $835 million in aid to Cairo.

From 1955 through mid-1975 approximately $8 billion in Communist military assistance has been extended to Egypt, Iraq, and Syria. About $890 million of equipment has been sold to Libya and an additional $360 million has been sold to Algeria. The equipment provided under these agreements includes combat and transport aircraft, tanks, armored personnel carriers (APCs), artillery, submarines, guided missile patrol boats, and surface-to-air missile systems. Furthermore, since mid-1973, Moscow, for the first time, exported the MIG-23 FLOGGER jet fighter, SU-20 FITTER C fighter bomber, TU-22 BLINDER medium bomber, and the SCUD surface-to-surface missile system to the Middle East. Military aid from East European countries has supplemented Soviet deliveries.

Some 5,500 Soviet and East European military personnel and technicians are currently stationed in Algeria, Egypt, Iraq, Libya, and Syria. Demands for technical support have increased over the past year as new weapons systems were introduced into Arab inventories. Some 15,000 Arab military personnel have received military training in Communist countries. As of mid-1975 at least 1,850 were still in training.

The statistical summaries in this supplement show only deliveries. They do not indicate current holdings, which would reflect both combat and non-combat losses. The delivery figures are minimum estimates and do not account for the total tonnage known to have been delivered.

B. Egypt

Communist countries, mainly the USSR, have provided over $3.8 billion worth of military assistance to Egypt since 1955, 70 percent of which has been delivered since mid-1967.

While fighting still was going on in the June 1967 war, Moscow initiated emergency deliveries to replace [redacted] losses. Since then, almost $2.4 billion in new

military aid agreements have been signed, including about $135 million with East European countries. From mid-1967 to 1969, the agreements were designed to completely re-equip the Egyptian armed forces and undertake limited modernization. However, in early 1970, in response to Israeli deep penetration air raids against Egypt, an unprecedented military supply effort was begun. The Soviets rushed in the SA-3 surface-to-air missile system, together with supporting radar-controlled antiaircraft artillery and sophisticated electronics equipment. The SA-3 system was initially manned by Soviet personnel. Moreover, Moscow rapidly delivered over 80 MIG-21s for use by Soviet pilots.

Early in 1971, Moscow initiated a new round of deliveries and at least four FOXBAT aircraft and about five SA-6 mobile SAM units subsequently were detected. This equipment was manned exclusively by Soviet personnel. However, Moscow refused to supply other advanced weapons systems that Egypt requested. This factor contributed to Sadat's July 1972 decision to expel most Soviet military advisors and technicians and all combat units stationed in Egypt. The Soviets left behind much of the aircraft and air defense equipment that they had previously manned.

Despite Sadat's actions, the Soviets did not end the flow of arms. For example, T-62 tanks were provided in increasing numbers; BMP combat infantry vehicles, the SU-20 fighter bomber, and the SCUD surface-to-surface missile system also were subsequently introduced. Moreover, Moscow responded to the October 1973 Arab-Israeli War with a massive resupply effort, re-equipping those units hardest hit with armored equipment, anti-tank weapons, SAMs, and jet fighters. In mid-April 1974, however, following a deterioration in relations between Moscow and Cairo, Sadat began a program to diversify Egypt's sources of arms and arms deliveries were terminated.

Soviet seaborne arms shipments to Egypt resumed in August. Between August 1974 and early February 1975 identified Soviet deliveries consisted only of spare parts, ammunition, and ground support equipment ordered before 1974. In February 1975 the Soviets resumed fighter aircraft shipments to Egypt—the first since 1973. By 30 June 1975, some 28 MIG-23's, 18 SU-20's, and 5 MIG-21's have been delivered. When shipments are completed Cairo presumably will have received 68 fighter aircraft in line with the terms of a 1973 accord. Recent deliveries reflect Moscow's intention only to fulfill earlier commitments, in as much as no new accords have been signed with Cairo since 1973.

About 13,000 Soviet military personnel were stationed in Egypt until mid-July 1972, 5,500 as advisors and as many as 6,500 manning Soviet controlled air defense equipment. The remaining 1,000 or more were associated with the Soviet maritime air reconnaissance squadron and shore support for the Soviet Mediterranean squadron based in Egypt. By mid-1975 there remained only about 350 Soviet advisors and technicians including some Soviet military personnel servicing the Soviet FOXBAT reconnaissance squadron stationed at Cairo West. There are an additional unknown number of Soviets servicing Soviet naval ships docked at Alexandria. Over 6,200 Egyptians have received training in Communist countries since 1955.

The following summary includes all major military equipment known to have been delivered to Egypt between 1955 and mid-1975.

Items	Estimated Deliveries: To 6 Oct 1973	Estimated Deliveries: 6 Oct 1973–30 Jun 1975
Air		
Fighter Aircraft		
MIG-15 jet fighters	237[1]	0
MIG-17 jet fighters	118	0
MIG-19 jet fighters	60	0
MIG-23 jet fighters	0	24
MIG-21 jet fighters	470[2]	56
SU-7/20 fighter-bombers	175	18
SU-17 fighter-bombers	30	0
Bomber Aircraft		
IL-28 jet light bombers	70	0
TU-16 jet medium bombers	32	0
Helicopters	105	12
IL-14 twin engine transports	62	0
AN-10 four engine turboprop transports	1	0
AN-12 four engine turboprop transports	31	0
Czech L-29 trainers	112	0
Ground		
Tanks[3]	2,565	430
Self-propelled assault guns	265	0
Armored personnel carriers[4]	2,200	200
Field and air defense artillery, rocket launchers, mortars, and recoilless rifles over 100 mm[5]	2,200	210
Naval		
Landing ships (POLNOCHNY-Class)	0	2
Destroyers (SKORYY Class)[6]	6	0
Submarines[6]	20	0
Motor torpedo boats (P-6 Class)	22	0
Fast patrol boats SHERSHEN Class)	6	0
Small guided missile boats (KOMAR Class)	8	0
Large guided missile boats (OSA Class)	12	0
Small submarines (W.W. II S.O. 1 Class)	12	0
Fleet minesweepers	11	0
Amphibious craft (LCU)	15	0
Medium minesweepers (T-301 Class)	2	0
Types of Missile Systems		
AA-2/ATOLL air-to-air (MIG-21)		
AS-1/KENNEL air-to-surface (TU-16)		
AS-5/KELT air-to-surface (TU-16)		
SA-2/GUIDELINE surface-to-air		
SA-3/GOA surface-to-air		
SA-4/GAINFUL surface-to-air		
SA-7/GRAIL hand-held surface-to-air		
SS-2b/STYX surface-to-surface (anti-shipping)		
SSC-2b/SAMLET surface-to-surface (coastal defense)		
AT-1/SNAPPER anti-tank		
AT-3/SAGGER anti-tank		
SS-1C/SCUD surface-to-surface		

[1] Includes transfers in 1967 from Algeria of 21 MIG-17s, and estimated 87 MIG-15/17s airlifted from the USSR, and 17 MIG-17s from East Germany.

[2] Includes transfer in 1967 of 20 MIG-21s from Algeria and an airlift of an estimated 29 MIG-21s from the USSR.

[3] Does not include 140 Yugoslav T-54 tanks and 400 antiaircraft guns delivered after the outbreak of the 6 October War.

[4] Includes BRDM amphibious reconnaissance vehicles.

[5] Includes FROG-7 rocket launchers.

[6] These figures include a total of nine ship exchanges—two destroyers and seven submarines.

C. Syria

The USSR and Eastern Europe have provided an estimated $2.3 billion in military assistance to Syria since 1955, more than 80 percent of it during the post June 1967 War period. Damascus concluded $850 million in military aid agreements with the USSR and $70 million with East European countries between 1967 and 1972. Deliveries under these accords completed the resupply effort and allowed for modernization and expansion of Syria's armed forces which suffered heavy losses during the June 1967 War.

After the expulsion of Soviet military advisers from Egypt in mid-1972, Damascus emerged as the chief recipient of Soviet military aid. Within a one year period, July 1972–September 1973, the SA-3, SA-6, and the SA-7 surface-to-air missile systems, T-62 medium and JS-3 heavy tanks, 180-mm howitzers, 240-mm mortars, KA-25 helicopters, OSA-Class guided missile patrol boats, and VANYA-Class minesweepers were introduced into Syrian inventories.

Moscow responded quickly to Syrian arms requests during the October 1973 war and resupply was completed by mid-November. Since late 1973, Soviet arms shipments have included MIG-23 jet fighters, the SCUD surface-to-surface missile system, and possibly the SA-9 vehicle-mounted infrared SAM system. A major arms accord was negotiated in April 1974 when President Asad visited Moscow.

Communist deliveries to Syria following the October 1973 war total over $1 billion, some 90 percent by the USSR. These deliveries have upgraded Syria's air and ground forces so that they are currently better equipped than at the start of the October 1973 war.

With the introduction of new weapon systems, the number of Soviet military technicians posted in Syria has increased to over 2,800. Most are used in air defense related functions. About 3,500 Syrian military personnel have received training in Communist countries since 1955 with several hundred still in training.

The following summary includes all major military equipment known to have been delivered to Syria since 1955.

SYRIA

Items	Estimated Deliveries	
	To 5 Oct 1973	6 Oct 1973–30 Jun 1974
Air		
Fighter Aircraft		
MIG-15 jet fighters	29	12
MIG-17 jet fighters	156	12
MIG-21 jet fighters	268	169
MIG-23 jet fighters	0	40
SU-7/20 fighter-bombers	65	70
U-MIG-15 jet trainers	8	0
IL-28 jet light bombers	6	0
Air		
IL-14 transports	8	0
Helicopters	52	3

L-39 jet trainers	80	0
AN-24 transports	1	0
AN-12 transports	3	0
Ground		
Tanks	1,800	1,225
Self-propelled assault guns	100	0
Armored personnel carriers	825	870
Field and air defense artillery, rocket launchers, mortars, and recoilless rifles over 100 mm[1]	1,825[1]	20[1]
Naval		
Motor torpedo boats (P-4 Class)	15-18	1
Small guided missile boats (KOMAR Class)	6	0
Guided missile patrol boats (OSA Class)	2	4
Fleet minesweepers (T-43 Class)	2	0
Coastal minesweepers (VANYA Class)	2	0
Patrol craft (PB)	9	2
Types of Missile Systems		
AA-2/ATOLL air-to-air (MIG-21)		
SS-N-2/STYX surface-to-surface (anti-shipping)		
SA-2/GUIDELINE surface-to-air		
SA-3/GOA surface-to-air		
SA-4/GAINFUL surface-to-air		
SA-7/GRAIL hand-held surface-to-air		
SA-9/GASKIN (possible) surface-to-air		
AT-1/SNAPPER antitank		
AT-2/SWAGGER antitank		
SS-1C/SCUD surface-to-surface		

[1] Includes FROG-7 rocket launchers.

D. Iraq

Since late 1958, Iraq has purchased almost $1.9 billion worth of Communist military equipment. Baghdad sustained relatively small losses of equipment in both the June 1967 and October 1973 wars, and thus has used Soviet arms aid largely as a means to expand and modernize its armed forces as well as to conduct operations against the Kurds. Along with Syria, Iraq in the last two years has become a primary recipient of Soviet military aid.

Iraq has concluded almost $1.1 billion in arms aid agreements with the USSR since mid-1967. New commitments and deliveries under old credits have dominated recent Communist-Iraqi military relations. Soviet military credits hit a single year high of $470 million in 1974 alone. These new accords provide for the continued growth and modernization of the Iraqi armed forces and the resupply of ordnance depleted in the Kurdish War.

Moscow has delivered over $500 million worth of equipment since the October 1973 war including a wide range of new weapons systems introduced

during 1974—the MIG-23 FLOGGER jet fighter, the SA-6 surface-to-air missile system, OSA-II guided missile patrol boats, and FROG-7 tactical surface-to-surface rockets. The Soviets also reintroduced the SA-2 surface-to-surface missile system. Iraq received SA-2's in the early 1960's but they were subsequently transferred to Egypt.

Since October 1967, Iraq has concluded at least $150 million in military aid agreements with Czechoslovakia and about $145 million in military accords with Bulgaria, East Germany, Hungary, Poland, and Romania. Those agreements have covered jet aircraft, tanks, and support equipment.

By mid-1975 about 1,000 Soviet military technicians were in Iraq, an increase of some 200 over mid-1974. Over 2,900 Iraqi military personnel have received training in Communist countries during the past 15 years and about 400 are still in training.

The following summary includes all major military equipment known to have been delivered to Iraq since 1958.

IRAQ

Items	Estimated Deliveries To 6 Oct 1973	Estimated Deliveries 6 Oct 1973–30 Jun 1975
Air		
Fighter Aircraft		
MIG-17 jet fighters	35	1
MIG-19 jet fighters	28	0
MIG-21 jet fighters	116	5
MIG-23 jet fighters	0	42
SU-7/20 fighter-bombers	90	20
TU-22 medium bombers	14	0
U-MIG-21 jet trainers	2	0
U-MIG-15 jet trainers	31	0
IL-28 jet light bombers	15	0
U-IL-28 jet trainers	2	0
TU-16 jet medium bombers	10	0
AN-12 four engine turboprop transports	11	0
TU-124 jet transports	3	0
AN-24 transports	10	0
Helicopters	78	34
L-29 jet trainers	40	20
Ground		
Tanks	1,090	300
Self-propelled assault guns	700	0
Armored personnel carriers	1,250	240
Field and air defense artillery, rock t launchers, mortars, and recoilless rifles over 100 mm[1]	1,720[1]	520[1]
Naval		
Large guided missile patrol boats (OSA Class)	4	0
Small submarine chasers (S.O. 1 Class)	3	0
Fleet minesweepers (T-43 Class)	2	0
YEVGHENYA minesweepers	0	3
Motor torpedo boats (P-6 Class)	12	0
Patrol craft (PO-2 Class)	3	0
Patrol craft (PB)	6	0
ZHUK patrol craft	0	3
Types of Missile Systems		
AA-2/ATOLL air-to-air (MIG-21)		
SA-2/GUIDELINE surface-to-air		
SA-3/GOA surface-to-air		
SA-7/GRAIL hand-held surface-to-air		
AT-1/SNAPPER antitank missiles		
AT-2/SAGGER antitank missiles		
SS-N-2/STYX surface-to-surface (anti-shipping)		
SA-4/GAINFUL surface-to-air		

[1] Includes FROG-7 rocket launchers.

PAGE #

58

BLANK

II. TRANSPORTATION AND PRODUCTION

A. Transportation

Israel's highway network is the primary means of overland transportation. It is well designed and provides a dense network in the central and northern sections of the country and major routes into the feeder system adjacent to the borders of Lebanon, Syria, and Jordan. The highway network into the Sinai consists of three major routes which extend to the Suez Canal. These routes are capable of providing the capacity for good logistic support as was available during the 1973 war. The rail system supports bulk movement within central Israel, but does not extend to neighboring borders and only as far as Al Arish in the Sinai. This transportation net provides the IDF with great flexibility, permitting large units to rapidly redeploy from north to south.

Egypt has sufficient logistic throughput capability by rail and highway systems to provide adequate support to troops under combat conditions. Weaknesses in the Egyptian transportation network have existed since the 1967 war. Major efforts have recently been made to eliminate these shortcomings. In the highway area, numerous interconnecting roads have been built between the major highways of the system and provide the military installations with necessary support. During 1974, the rail lines leading to Suez and Ismailia were repaired and the line between Ismailia and Suez, which was inoperable in the 1973 war was reconstructed. Rail improvements provide the capability to move major quantities of goods into the Suez Canal Zone under the cover of darkness if desired. Egyptian army units possess sufficient vehicles to distribute supplies to combat elements involved in operations with limited Sinai objectives.

Syria has sufficient logistic throughput capabilities to provide adequate support to troops engaged in combat operations along the Golan front and to bring new equipment or supplies from coastal ports to the Golan area. Highways are the principal mode of transport, but are poorly designed. The present transportation system between Syria and Iraq consists of only one major highway and several low capacity secondary roads. By mid-1975, the rail line between Al Qamishli and Dayr az Zawr should be complete and should allow for movement of units or supplies by Iraq to Syria by rail. Acquisition of additional transport equipment by Syria and Iraq, mainly tank transporters, will allow increased efficiency in deploying units from Iraq to Syria. During the last war, refined oil products were carried by rail from Iraq to Aleppo and from there to Damascus by pipeline. These facilities would be significant should Syrian petroleum supply be again drastically reduced.

B. Domestic Arms Production

1. *Israel*

Israel has been expanding its military industry and has the technological skill to achieve a greater degree of self-sufficiency. Defense Minister Peres claims that Israel produces 30 percent of its arms requirements and could produce

up to 50 percent of its needs. Israel currently manufactures a wide variety of materiel ranging from simple quartermaster items to a highly sophisticated jet fighter. In addition, much effort is expended in making spare parts and modifying foreign equipment. Since the October War, however, Israel has ordered some $3.0 billion in arms from foreign sources, primarily from the US. This represents approximately 40 percent of the country's total import bill for the period.

Local production meets many of the ground forces' needs for less sophisticated weapons. Small arms, machine guns, aircraft guns, mortars, recoilless rifles, and infantry and artillery rockets are produced in adequate quantities. Current output of many of these weapons exceeds Israeli needs, and significant numbers have been exported. Small quantities of light armored reconnaissance vehicles and self-propelled artillery are being produced, and series production of a main battle tank is expected to begin in mid-1978. For most major items, however, the country is dependent upon imports. Ammunition is locally manufactured for nearly all the IDF weapons, including the Soviet artillery captured in recent wars. Ammunition production (in rounds) in 1974 of some key items:

Small arms	50,000,000
60-mm to 160-mm mortar	500,000
20-mm antiaircraft cannon	240,000
105-mm tank-gun (APDS, HEAT, HEP)	114,000
155-mm howitzer (HE, Smoke)	68,000
500 pound bombs	24,000

These production rates are expected to continue in the immediate future, especially the small-arms cartridges and tank rounds. The production capacity, however, allows for these rates to be increased if they add shifts of labor.

Large guided missile boats and patrol boats are the only naval combatants currently under construction in Israel. Because of the outstanding performance of its missile boats against Arab naval units during the October War, Israel decided to build six more units similar to the SAAR-IV. The 65-foot DABUR-class patrol boats also are in production at an Israeli Aircraft Industries (IAI) plant in Beersheba and as many as 20, and possibly more, of these may be built with some of the output for export. Three small 500-ton attack submarines are currently under construction in the UK and the first one is scheduled for delivery in June 1978.

Aircraft research, development and production capabilities are significant and, under the direction of the Israeli Aircraft Industries, are continuing to increase.* The most recent development was the unveiling of the locally designed Kfir (Lion Cub) jet fighter in April 1975. The Kfir is based on the Mirage 5 airframe and is powered by a single US General Electric J79 engine. The aircraft, which can fly at speeds over Mach 2, reportedly will be used in both an inter-

*During 1971-1974 some 50 Mirage 5's were assembled by IAI. Eight of these were lost in 1973 leaving 42 in the inventory.

ceptor and ground-attack role.* In addition, Israel continues to make basic improvements in the aircraft it imports.

Israel has developed an increasingly effective research, development and production capability in nearly all aspects of missile technology. Efforts have been focused on development and production of a naval cruise and an air-to-air missile. Surface-to-air and antitank missiles, however, are imported. Output of the 11.5 nm Gabriel I naval cruise missile is about 20 a month and is sufficient both for Israeli needs and export. Full production is less than a year away on Gabriel II—the improved 22 nm version. Shafrir II has been a highly effective air-to-air missile and output is expected to remain at about 50 per month. This missile is used on the F-4/Phantom, the Mirage III C, the Mirage 5 and the Kfir.

Israel's electronics industry has greatly expanded in recent years. Supported by government financing and Western investment and technology, the industry has become a producer of a wide range of professional, industrial, and military equipment. The IDF currently receives approximately 40 percent of all electronics equipment manufactured. A variety of modern tactical communications equipment is produced and output is known to be sufficient to supply most local military needs and to allow exports.

2. *Egypt*

Egypt has a limited capability to produce army materiel and naval vessels, but has not demonstrated any capacity for production of aircraft and missiles. Small arms, small arms ammunition, and artillery ammunition up to 85-mm are being manufactured. Larger caliber artillery rounds also may be in production and a 6-inch rocket is under development. Although construction of naval vessels is limited, Egypt has demonstrated an increased capability in naval combatant construction and modification during the last two years. Several P-6 Class patrol boats, two KOMAR-Class guided missile boats, and six KOMAR-like units comprising a reported "SIXTH OF OCTOBER" Class have been constructed. The latter are expected to mount either the French EXOCET or French-Italian OTOMAT surface-to-surface missile. Replacement hulls for aging units also have been built and improved electronics and weaponry have been added to existing units. However, a follow-on class of about ten missile boats is expected to be built outside the country.

The only known air inventory items now being produced in Egypt include decoy aircraft, external drop fuel tanks, small parts for fighter aircraft, air-to-ground rockets, aerial bombs up to 500 pounds, stabilizer fins for bombs, and fuel injection pumps.

3. *Syria*

Syria makes small quantities of ammunition for infantry weapons, mainly small arms. No other materiel is produced.

---

*Production of the Kfir was phased into the Mirage 5 assembly activity. Current production is estimated at 1.5 to 2 per month. Initial IAF orders are for 60 to 100 aircraft. It will take IAI approximately 4 years to fulfill IAF requirements. However, to reduce overall costs and to gain a lucrative market if one should present itself, IAI may begin limited sales of the Kfir before all IAF requirements are met.

PAGE #

62

BLANK

III. THE SOVIET MEDITERRANEAN SQUADRON

The Soviet Navy has maintained a continuous presence in the Mediterranean since 1964. After the June 1967 war, the squadron grew both in the number of ships and in overall capability. There were seasonal highs and lows, but by the end of 1972 the squadron averaged 50 units, including 15 surface combatants, 10-15 submarines, and 20-25 naval auxiliaries. An all-time high was reached in October 1973 when 96 ships, including 29 surface combatants and 23 submarines, were counted in the Mediterranean. Since then the squadron has been maintained at a level of about 55 units including 10 surface combatants and 13 submarines. At least two cruise missile submarines are continuously present. Despite the departure of Soviet forces from Egypt, Soviet vessels continue to utilize port and service facilities in Alexandria.

This squadron serves Soviet objectives in the Middle East by conducting surveillance of US and allied naval operations, by acting as a constraint on the political and military options of other countries, and by providing visible support to the Arabs. The Soviet Mediterranean squadron lost its air support with the withdrawal of Soviet units from Egypt in the summer of 1972.

The Black Sea Fleet provides most of the Soviet Mediterranean surface combatant ships. The squadron's capabilities in recent years have been improved with deployments of the two MOSKVA-Class guided missile helicopter ships, new KARA-Class guided missile light cruisers, KIRVAK-Class guided missile destroyers, CHARLIE- and VICTOR-Class submarines, and PRIMORYE-Class intelligence collectors.

To support the combatants, the Soviets keep a substantial number of naval auxiliaries in the Mediterranean. In addition, some merchant ships (primarily tankers) also provide logistic support. Although units of the SOVMEDRON continue to use the port of Alexandria, deteriorating relations between Moscow and Cairo have resulted in decreased access to Egyptian naval facilities. By mid-1973, Soviet naval units had been excluded from Sollum and Mersa Matruh and loss of access to facilities in Alexandria appeared possible. In the past few years, the SOVMEDRON has made increased use of the Syrian ports of Tartus and Latakia for support.

Soviet ships operate primarily in the eastern Mediterranean. Surface ships have made port visits usually of short duration to Syria and Algeria, probably to "show the flag" and to take on provisions and possibly fuel. Units of the Mediterranean squadron have made occasional formal visits to Yugoslavia and just recently the first overhaul of a diesel powered submarine was completed at the shipyard in Linst. Activity in the past has included anti-carrier, anti-submarine, and anti-air warfare practice, as well as opposed ship transits, and simulated and actual missile firings. Submarines also have engaged in training exercises, oceanographic survey work, and in surveillance and intelligence missions.

Since 1967 the Soviets have maintained a limited amphibious presence in the Mediterranean. This now usually consists of two POLNOCNY-Class medium landing ships. The Soviet presence has never represented a significant assault capability.

Secret
TABLE I

DEFENSE INTELLIGENCE APPRAISAL
SELECTED ARMAMENTS AND FORCES
ARAB COUNTRIES AND ISRAEL

Estimated Current Status
August 1, 1975

September 1, 1975

	EGYPT	ISRAEL	SYRIA	IRAQ	SAUDI ARABIA	JORDAN	LEBANON	LIBYA	ALGERIA
Combat Aircraft (Obsolescent)	200	130	200	135	45	62	17	20	61
Fighter									
Fighter	30	0	100	0	0	0	0	0	0
Fighter	2,200	2730	2,000	1,200	225	200	30	80	200
Fighter	15	0	120	60	0	0	0	0	0
Fighter Bomber	200	0	140	130	0	0	0	20	0
ASW	2,000	4,000	1,000	1,100	100	210	140	630	160
Artillery									
SP, 155mm & over	0	370	70	0	0	30	0	70	0
Towed, 105mm & over	1,000	230	1,000	340	170	130	110	0	200
Towed, up to 105mm	370	130	250	340	70	60	20	0	220
Multi-tube Rocket Launcher	120	20	60	60	0	0	20	20	20
Mortars, 160mm & over	370	60	500	160	230	60	20	30	120
AFVs									
Medium & over	1,000	0	1,000	200	0	0	0	0	0
Light to 17 ton	1,000	1,000	1,000	200	200	200	100	100	300
SSM: FROG 5/6/7	18-24	0	6	0	0	0	0	0	0
SSM: SCUD 1/2/3	18-24	0	6	0	0	0	0	0	0
MAJOR GROUND COMBAT FORCES									
Mech/Type/Motorized									
Mech/Type									
Divisions									
Infantry	5	0	0	2	0	2	0	0	0
Mechanized Infantry	3	0	3	0	0	1	0	0	0
Armored Infantry	0	0	0	3	0	2	0	0	0
Armored	2	0	2	3	0	2	0	0	0
Brigades (Non-Divisional)									
Infantry	9	0	6	0	6	0	3	0	0
Mechanized Infantry	1	3	0	0	0	0	0	2	0
Armored Infantry	0	0	0	0	0	0	0	0	0
Airborne	0	1-2	0	0	1	0	0	0	0
Armored	3	2	2	0	1	0	0	1	0
Special Forces	0	0	0	1	0	1	0	1	0
Republican Guard	1	0	1	1	0	0	0	1	0
Commando	1	0	0	0	0	0	0	0	0
Air Assault	3	0	0	0	0	0	0	0	0
Reconnaissance	1	0	0	0	0	0	0	0	0
AIR DEFENSE PERSONNEL	80,000	0	15,000	0	3,000	0	0	0	0
			[illegible]						
SA-2 Battalions*	1,900 450 75	0	375 90 15	180 75 4	0	0	0	75 15 3	22 15 3
SA-3 Battalions*	1,300 240 60	0	300 80 12	120 30 7	0	0	0	120 12 4	0
SA-6 Battalions*	720 60 15	0	1,000 80 20	240 40 10	0	0	0	80 12 2	0
SA-7 Platoons*	3,000 300 120	0	2,500 400 60	1,000 200 30	0	0	60	100	0
HAWK Batteries	0	600 192 18	0	0	48 8 2	0	0	0	0
CHAPARRAL Batteries	0	200 120 11	0	0	0	0	0	0	0
CROTALE Batteries	0	0	0	0	0	0	0	240 120 3	0
AIR FORCE PERSONNEL	25,000	10,000	15,000	11,000	15,000	4,000	1,300	4,000	4,000
Pilots (Jet qualified)	3-400 300	1,000 300	600 100	400 100	200 100	110 70	75 70	90 30	200 100
Jet Bombers									
Light									
IL-28/BADGER	14	0	0	0	0	0	0	0	22
Medium									
Tu-16/BADGER	20	0	0	0	0	0	0	0	0
Tu-22/BLINDER	0	0	0	12	0	0	0	0	0
TOTAL	34	0	0	36	0	0	0	0	22
Special Purpose Aircraft									
Transports	40	40	0	20	20	0	0	20	10
Tankers	0	0	0	0	0	0	0	0	0
Bombs	12	0	0	0	0	0	0	0	0
Note: [illegible]									

Secret

TABLE I (continued)

Estimated Current Status
August 1, 1978

	EGYPT	SYRIA	IRAQ	SAUDI ARABIA	JORDAN	LEBANON	LIBYA	ALGERIA
Air Fighters								
Subtotal								
Subtotal								
TOTAL								
Helicopters								
Special Purpose								
Subtotal								
Transport Troops per unit								
Subtotal								
TOTAL								
Ships								

(1) ground equipment totals are rounded to nearest ten.

(2) [illegible]

(3) Division Transports for training and deployment are the following: 70 C-130A/B type trucks, 70 C-4 type trucks, plus 20 more per unit in a rotational status storage. Item (1) includes the same ground forces and support brigades, each division (5-6), plus 10 more per unit in rotational depot. Other systems do not have comparable in the inventory table due to various organizational concepts. The Soviet battalion equivalent to the U.S. battalion.

Source: [illegible] on Page [illegible]

STRENGTH OF FORCES[1] DEPLOYED IN VICINITY OF ISRAELI-HELD FRONTIERS

	CURRENT	M + 48 HRS
Egypt	130,000	150,000
Syria	60,000	100,000
Jordan	50,000	62,000
Lebanon	6,000	21,000
Iraq	———	15,000
Saudi Arabia	13,000	14,000
TOTAL ARAB	253,000	372,000
Israel	56,000[2]	280,000[3]

1 Estimated strength along disengagement lines. Total strength estimated at 180,000.

2 Israel has the capability to mobilize up to 400,000 in a month.

[redacted]

TABLE II

TOTAL STRENGTH OF ARAB GROUND FORCES[1]

Egypt	300,000[2]
Syria	200,000
Iraq	135,000
Jordan	62,000
Lebanon	17,200
	714,200

1 Does not include 80,000 Air Defense Personnel.

[redacted]

TABLE III

Table IV

Comparison of Opposing Forces in Four Wars

	1947–1949		1956		1967		1973	
	Arab	Israel	Egypt	Israel	Arab	Israel	Arab	Israel
Ground Forces	22,500	70,000	80,000	50,000	327,000	200,000	350,000	150,000
Tanks	some	105	700	200	2,250	800	3,000	2,120
A/C	.....	.....	.....	.....	.....	.....	1,250	1,145
Naval Forces	7,000	2,000	7,300	3,200	16,100	4,000	20,000	5,000
Ships/Craft	.....	.....	45	5	122	35	105	55
Air Defense Forces	.....	3,000	.....	.....	30,000	5,000	50,000	17,000
Aircraft	45	50	340	250	900	340	1,200	325

Table V

Losses in Arab-Israeli Wars

	1947–49		1956		1967		1973	
	Arab	Israel	Egypt	Israel	Arab	Israel	Arab	Israel
Personnel	4,000	4,000	1,000	200	20,000	700	18,000	2,500
Tanks*	0	0	30	40	1,000	200	1,250	400
Planes	0	0	200	20	350	40	400	102
Ships	0	0	2	0	?	0	10	0

*Indicates tanks irrevocably lost; the total number of tanks knocked out in the fighting is much higher. Similar details for Arab tank losses are not available.

Table VI

Estimated Future Military Assistance to Egypt and Syria From Other Arab States (Ground)

Supporting Country	To Egypt	To Syria
Iraq		1-2 Armored Divisions (12,000 men, 230 tanks per division); 1 Infantry Task Force (estimated 15,000 men, 48 tanks) (including one tank battalion and other combat/combat support units)
Jordan (Within its boundaries, Jordan would retain: over 50,000 ground troops for at least 1 armored, 1 mechanized infantry, and 1 infantry division plus the Special Forces Unit)		1-2 Armored Brigade (4,000 men, 80 tanks per brigade)
Kuwait		2 Composite Battalions (2,000)
Lebanon		2 Medical Teams
Saudi Arabia		Presently in Syria: 1 Infantry Brigade (2,500) 1 Airborne Battalion (600) 1 Field Artillery Battalion (450) 1 Field Artillery Battery (150) 1 Special Forces Company (150) 2 ADA Batteries (250) (Saudi Arabia presently has 3,500 troops in Jordan that could be deployed to Syria). Probable add-on support: 1 Infantry Brigade (4,000) 1 Field Artillery Battalion (450—105-mm) 1 Armored Car Battalion (300—Panhard) 1 Tank Battalion (300—AMX-30) 3-4 ADA Batteries (3,000—40-mm) 3-4 Hawk Batteries (250-400) 8-10 Light Helicopters
Algeria	In Egypt since Oct 1973: 1 Armored Brigade (2,000 men, 100 tanks) Add-on support: 1 Infantry Brigade (2,500-3,000 men)	1 Armored Brigade (2,000 men, 100 tanks) 1 Infantry Brigade (2,500-3,000 men)
Morocco	3 Infantry Battalions with artillery support (3,000 men), no armor	3 Infantry Battalions with artillery support (3,000 men), no armor
Libya	1 Mechanized Infantry Brigade (2,200-2,500 men) 1 Armored Brigade (90-100 tanks, 12 155-mm SP How., 3,000-3,500 men) Minimum of 200 tanks without crews	1 Infantry Battalion (500 men) 100 or more tanks without crews
Sudan	Presently in Egypt: 2 Infantry Battalions (1,500) 1 Tank Company (10 T-54/55) 1 Armored Reconnaissance Company (10 Saladin; 30 APC (OT-64) Add-on support: 1 Parachute Battalion (500) 2 Tank Companies (20 T-54/55s) 1 Medical Company	1 Infantry Battalion (700) 1 Armored Battalion (30 T-54/55)
Tunisia	1 Infantry Battalion (500) 1 Parachute Battalion (700)	

Table VII

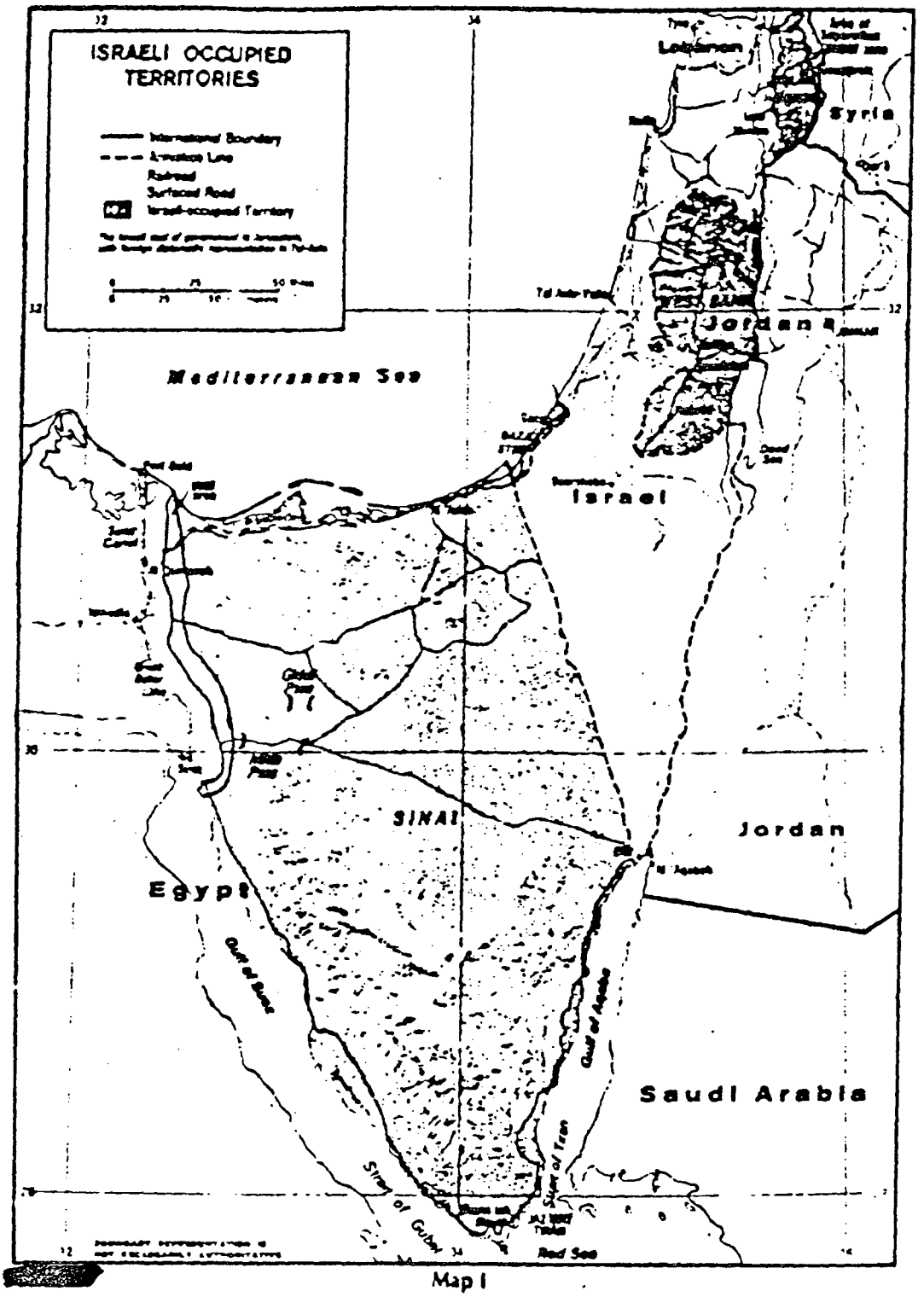
Estimated Future Military Assistance to Egypt and Syria From Other Arab States (Air)

Supporting Country	To Egypt	To Syria
Iraq		3–4 Fighter Squadrons (at least 18 aircraft per squadron), with additional required transport aircraft.
Jordan (4,600 air force personnel with 110 pilots (70 jet qualified) for 49 fighter aircraft.)		
Kuwait		1 Hunter Squadron (4 aircraft) 8 Light Helicopters
Algeria	1 Squadron MIG-21/Fishbed (12 aircraft) 1 Squadron MIG-17/Fresco (24 aircraft) 1 Squadron SU-7/Fitter (10 aircraft)	
Libya	50 Mirage fighters (without pilots)	

PAGE #

79

BLANK

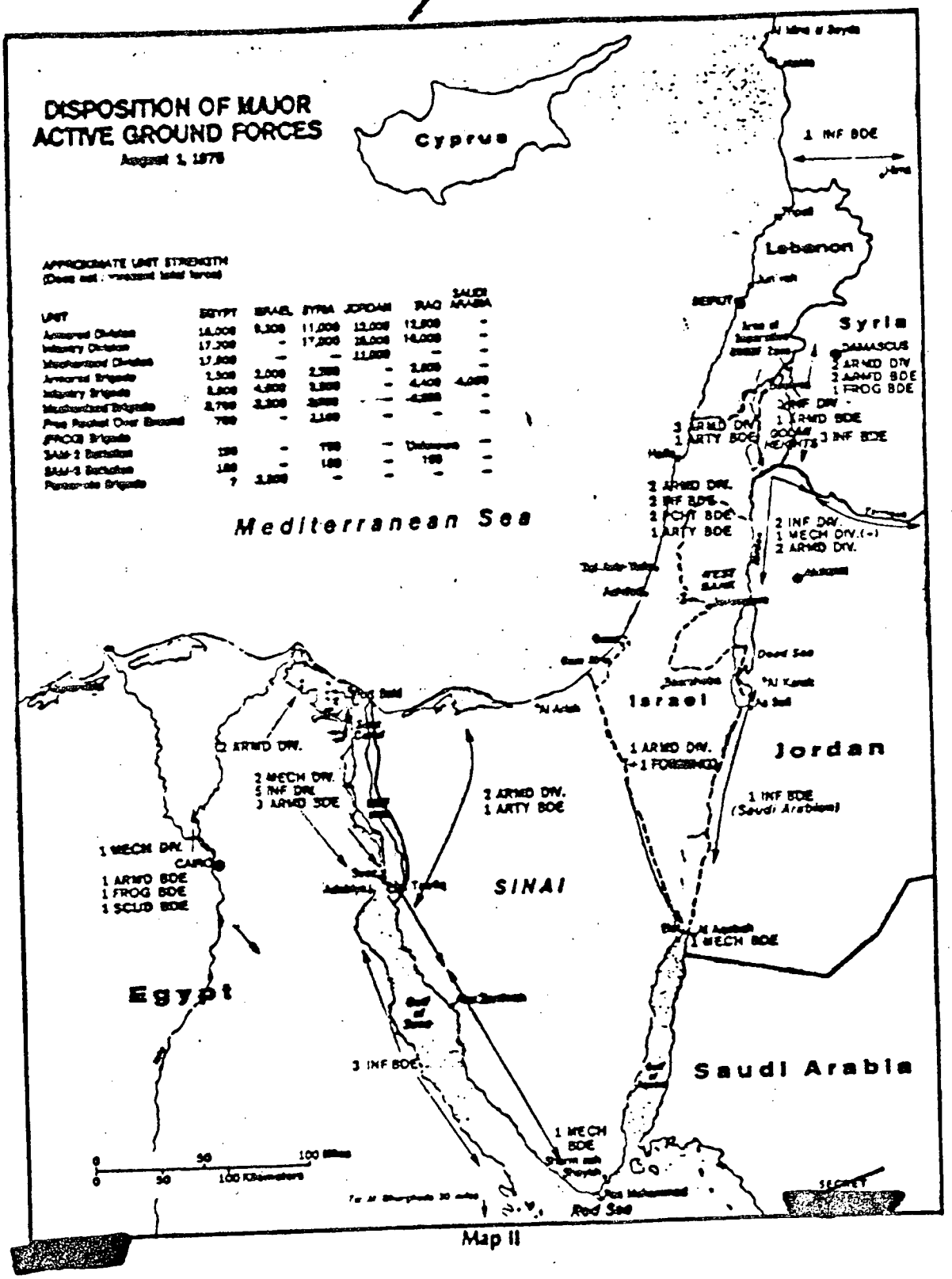

ISRAELI OCCUPIED TERRITORIES
Syria
Jordan R.
Mediterranean Sea
Israel
SINAI
Egypt
Jordan
Saudi Arabia
Gulf of Suez
Gulf of Aqaba
Strait of Tiran
Strait of Gubal
Red Sea

Map I

PAGE #

- 10

BLANK



APPROXIMATE UNIT STRENGTH

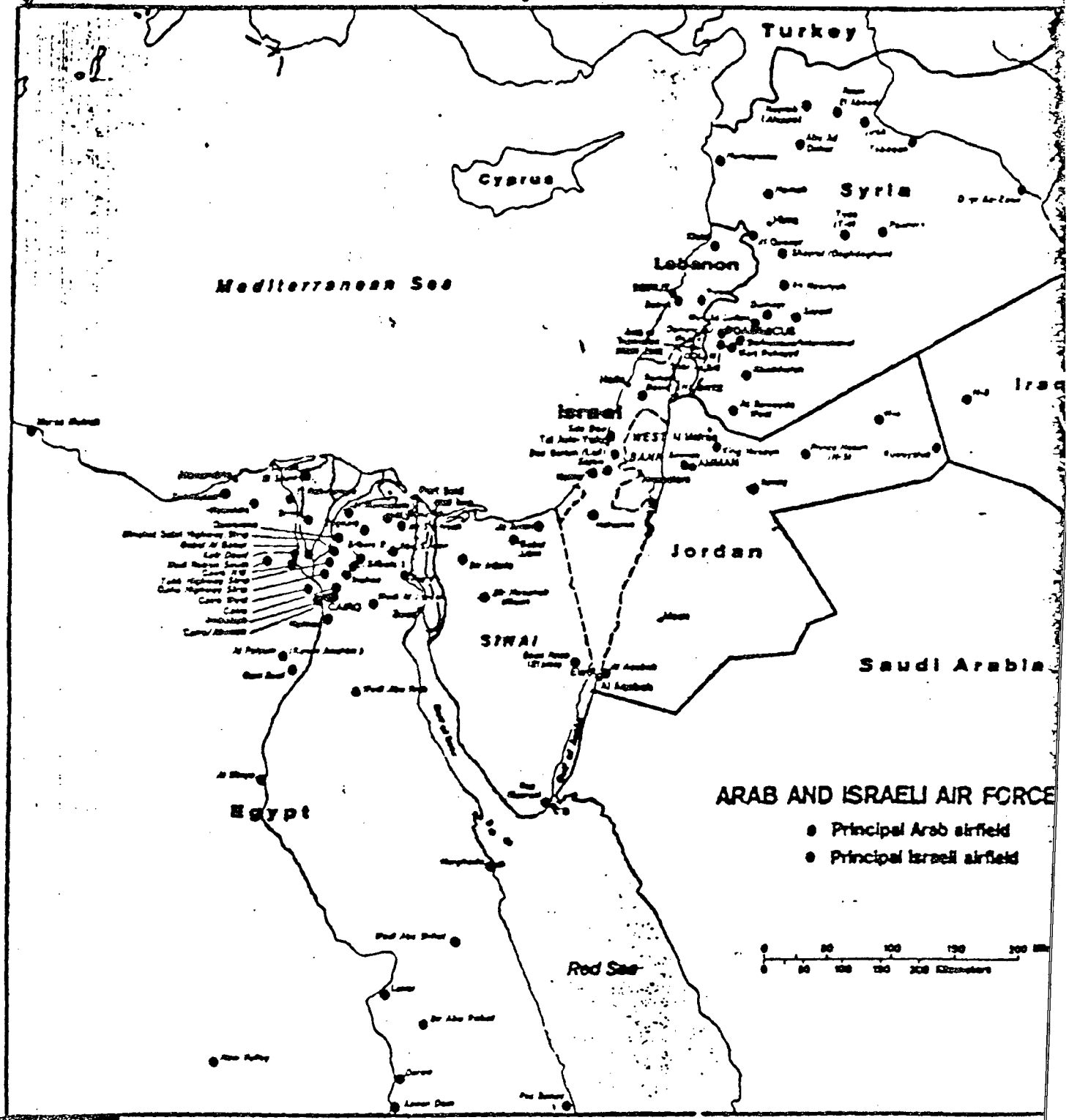
UNIT	EGYPT	ISRAEL	SYRIA	JORDAN	IRAQ	SAUDI ARABIA
Armored Division	14,000	8,300	11,000	12,000	12,000	-
Infantry Division	17,200	-	17,000	16,000	14,000	-
Mechanized Division	17,000	-	-	11,000	-	-
Armored Brigade	3,500	3,000	3,500	-	3,000	-
Infantry Brigade	5,000	4,000	3,000	-	4,000	4,000
Mechanized Brigade	5,700	3,300	3,000	-	4,000	-
Free Rocket Over Brigade	700	-	2,000	-	-	-
(FROG) Brigade						
SAM-2 Battalion	300	-	700	-	Unknown	-
SAM-3 Battalion	100	-	100	-	100	-
Paratroop Brigade	7	3,000	-	-	-	-

Map II

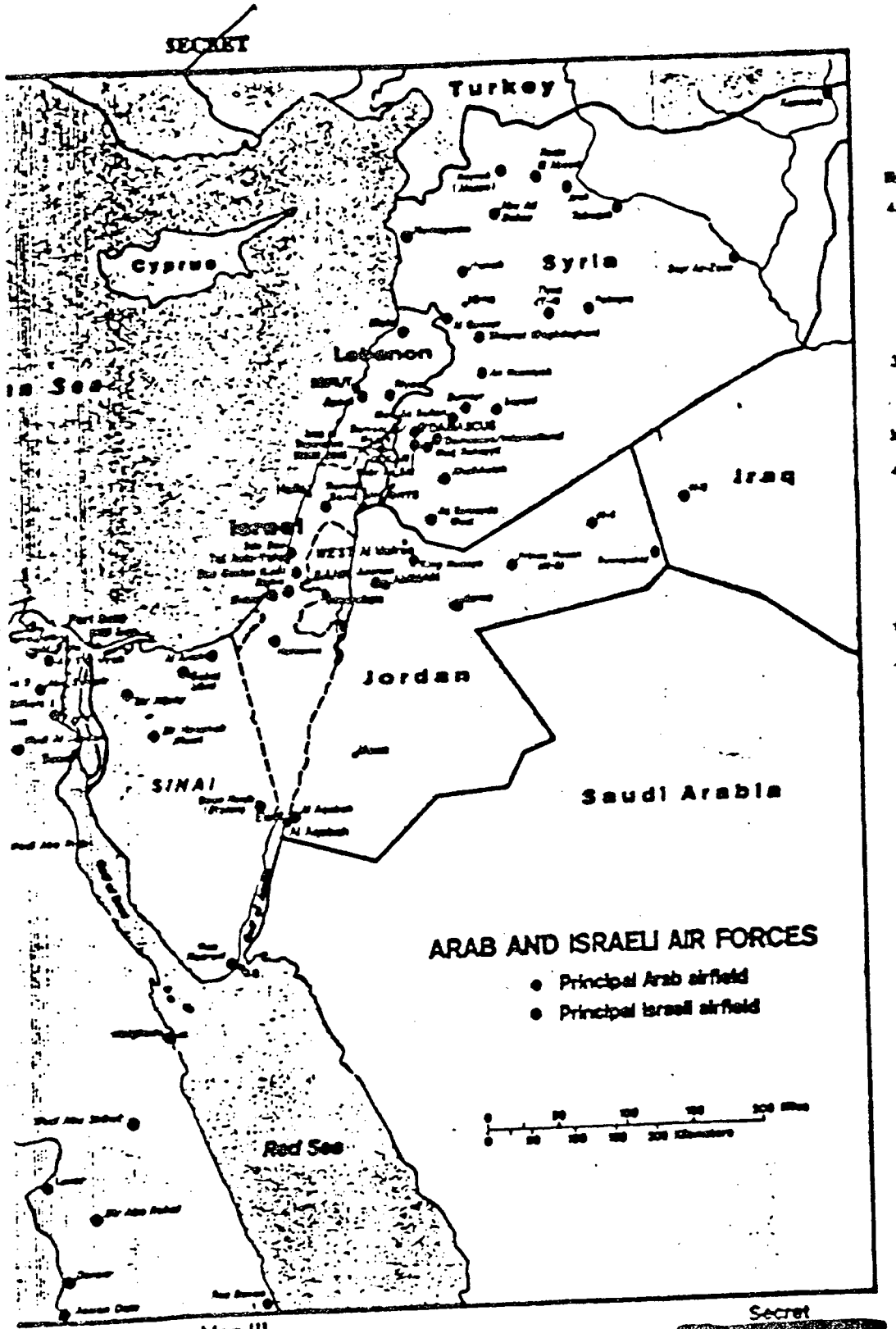
PAGE #

77

BLANK


Turkey
Cyprus
Syria
Lebanon
Mediterranean Sea
Israel
Iraq
Jordan
SINAI
Saudi Arabia
Egypt
Red Sea
ARAB AND ISRAELI AIR FORCE
Principal Arab airfield
Principal Israeli airfield

Map III



Egypt

437 JET FIGHTER/FIGHTER BOMBER
- 27 MiG-23
- 21 Mirage 5
- 210 MiG-21
- 60 SU-7
- 26 SU-20
- 93 MiG-15/17

37 BOMBERS
- 14 IL-28 Jet Light Bombers
- 23 TU-16 Jet Medium Bombers

Israel

435 JET FIGHTER/FIGHTER BOMBER
- 30 Mirage III B&C
- 42 Mirage 5
- 5 KFIR
- 120 F-4 Phantom
- 222 A-4 H Skyhawk
- 16 Super Mystere

Jordan

53 JET FIGHTERS
- 21 F-104
- 24 F-5A
- 8 F-5E

Lebanon

15 JET FIGHTERS
- 10 Mirage III D&E
- 5 Hawker Hunter

Syria

411 JET FIGHTERS
- 219 MiG-21
- 75 MiG-15/17
- 25 SU-7
- 45 SU-20
- 37 MiG-23

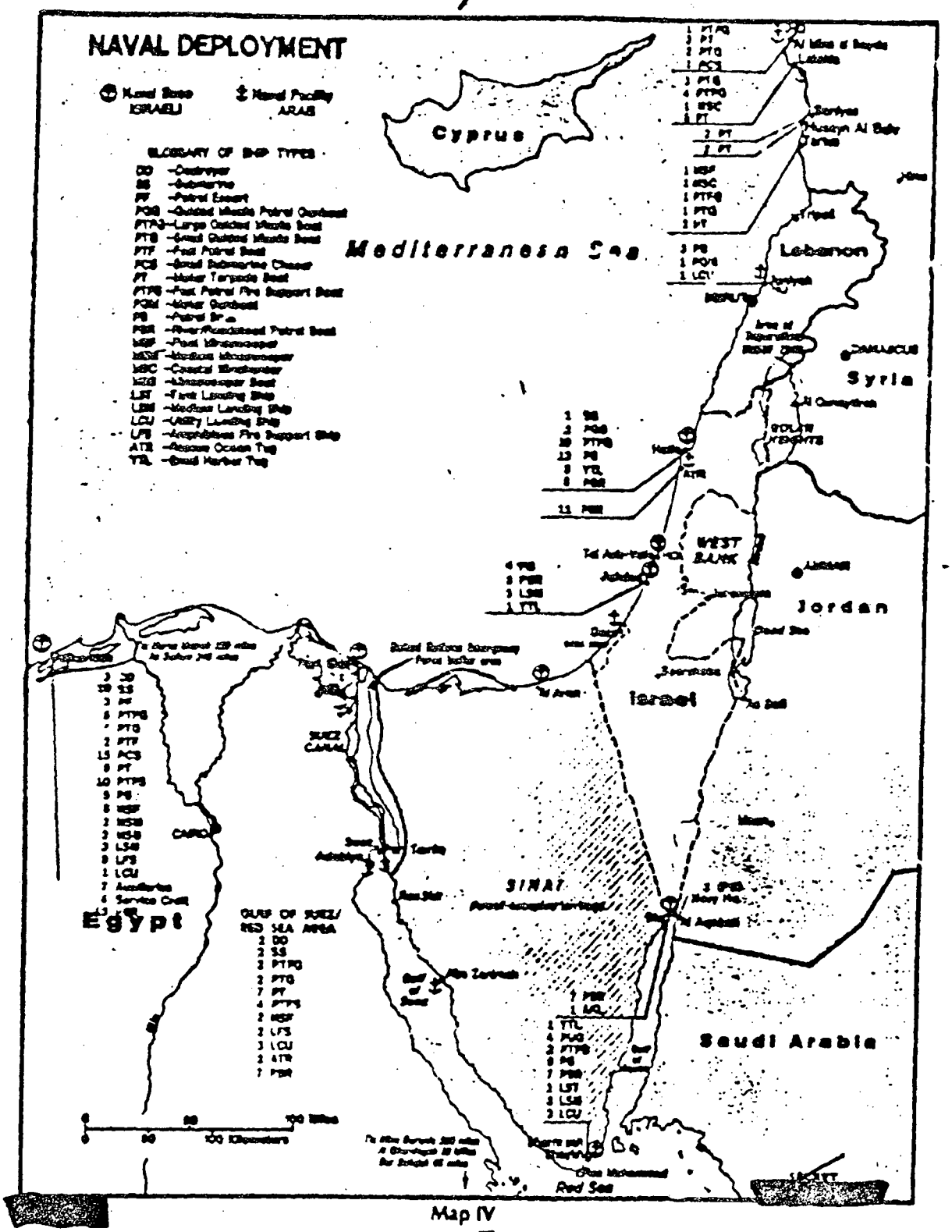
Secret

Map III
73
SECRET

PAGE #

- 76

BLANK

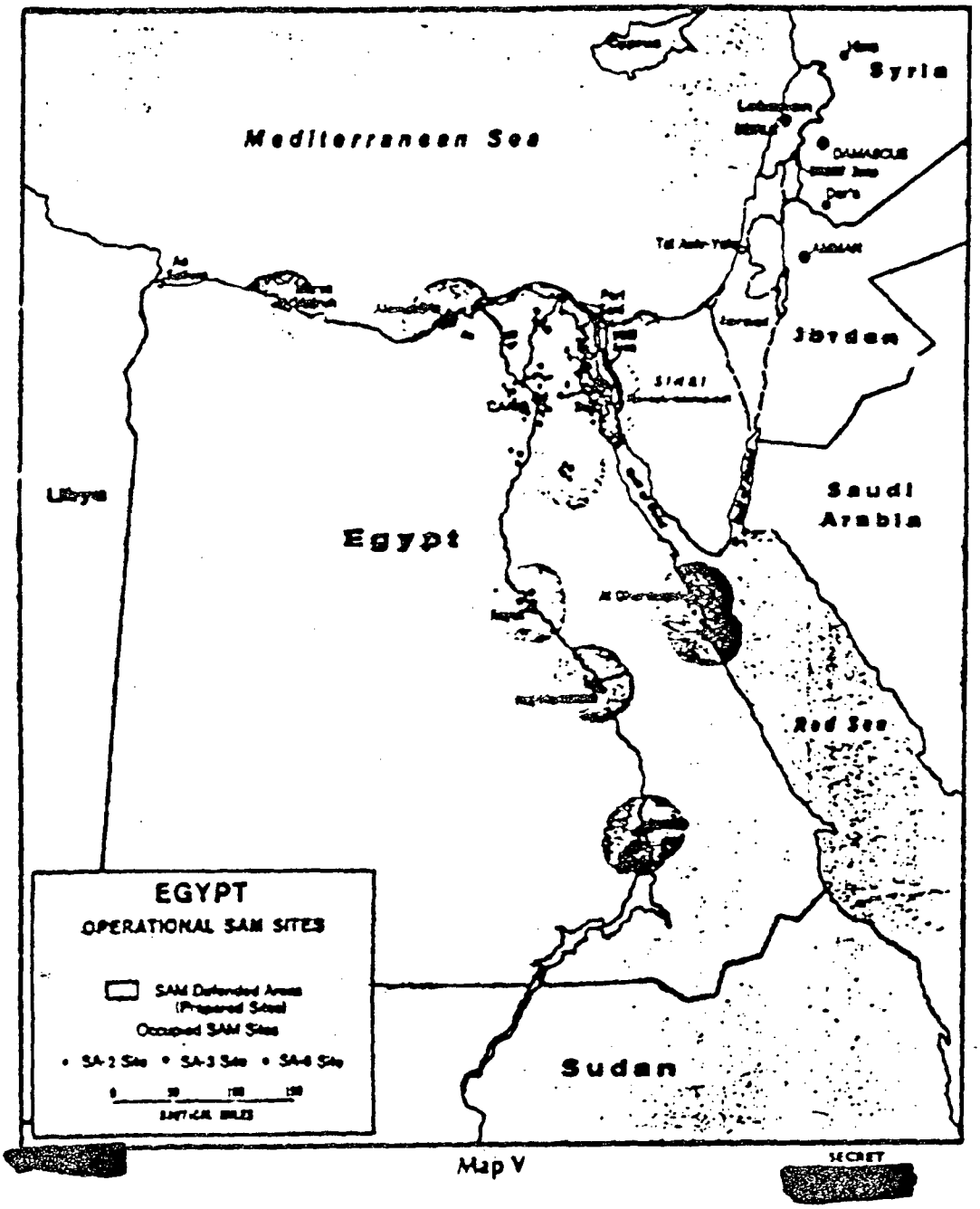

NAVAL DEPLOYMENT
Naval Base ISRAELI
Naval Facility ARAB
GLOSSARY OF SHIP TYPES
DD -Destroyer
SS -Submarine
PE -Patrol Escort
PGM -Guided Missile Patrol Gunboat
PTFG -Large Guided Missile Boat
PTG -Small Guided Missile Boat
PFT -Fast Patrol Boat
PCE -Small Submarine Chaser
PT -Motor Torpedo Boat
PTF -Fast Patrol Fire Support Boat
PGM -Motor Gunboat
PB -Patrol Boat
PBR -River Reconnaissance Patrol Boat
MSF -Fast Minesweeper
MSF -Medium Minesweeper
MSC -Coastal Minesweeper
MSB -Minesweeper Boat
LST -Tank Landing Ship
LSM -Medium Landing Ship
LCU -Utility Landing Ship
LSR -Amphibious Fire Support Ship
ATF -Fleet Ocean Tug
YTB -Small Harbor Tug
Cyprus
Mediterranean Sea
Lebanon
Syria
Jordan
Israel
Egypt
Saudi Arabia
WEST BANK
GOLAN HEIGHTS
SINAI
GULF OF SUEZ/ RED SEA AREA
SUEZ CANAL
CAIRO
Red Sea
50
100 Kilometers
50
100 Miles

Map IV

PAGE #

78

BLANK

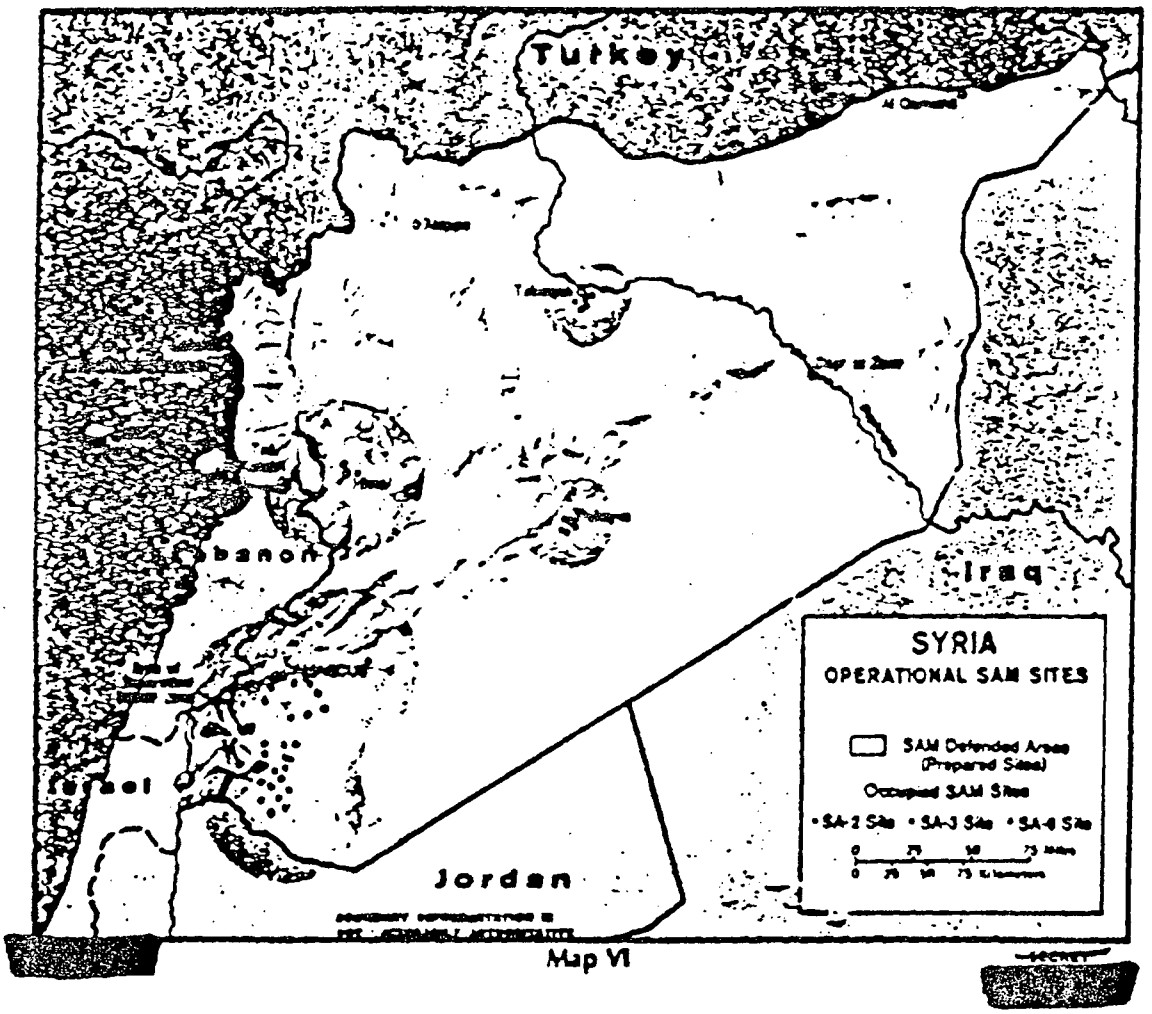

Mediterranean Sea
Syria
Jordan
Saudi Arabia
Egypt
Libya
Sudan
Red Sea
SINAI
EGYPT
OPERATIONAL SAM SITES
SAM Defended Areas (Proposed Sites)
Occupied SAM Sites
SA-2 Site
SA-3 Site
SA-6 Site
SECRET

Map V

PAGE #

8C

BLANK

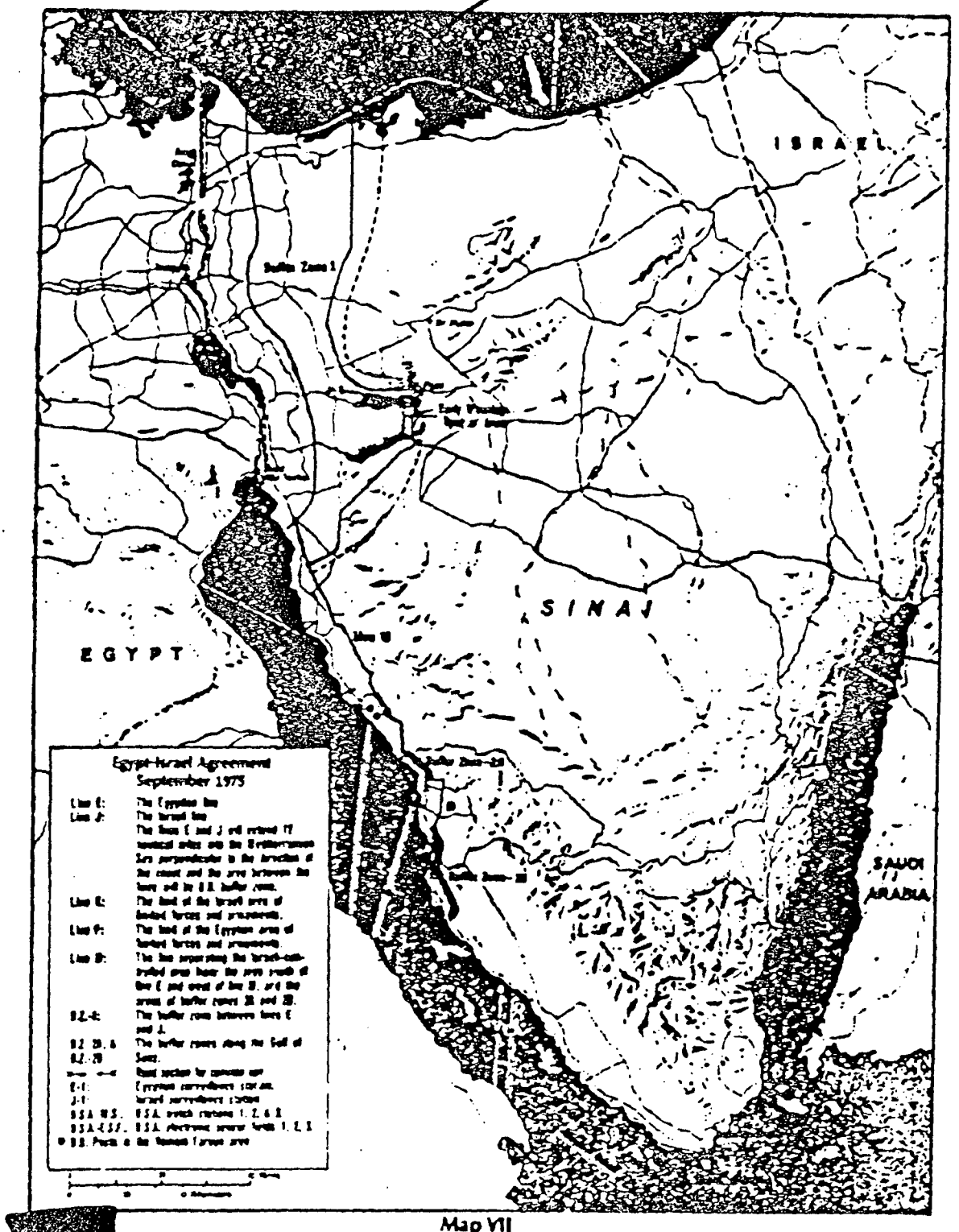

Turkey
Iraq
Jordan
SYRIA
OPERATIONAL SAM SITES
SAM Defended Areas (Prepared Sites)
Occupied SAM Sites
• SA-2 Site • SA-3 Site • SA-6 Site

Map VI

PAGE #

82

BLANK


ISRAEL
SINAI
EGYPT
SAUDI ARABIA
Buffer Zone I
Buffer Zone II
Buffer Zone III
Egypt-Israel Agreement
September 1975

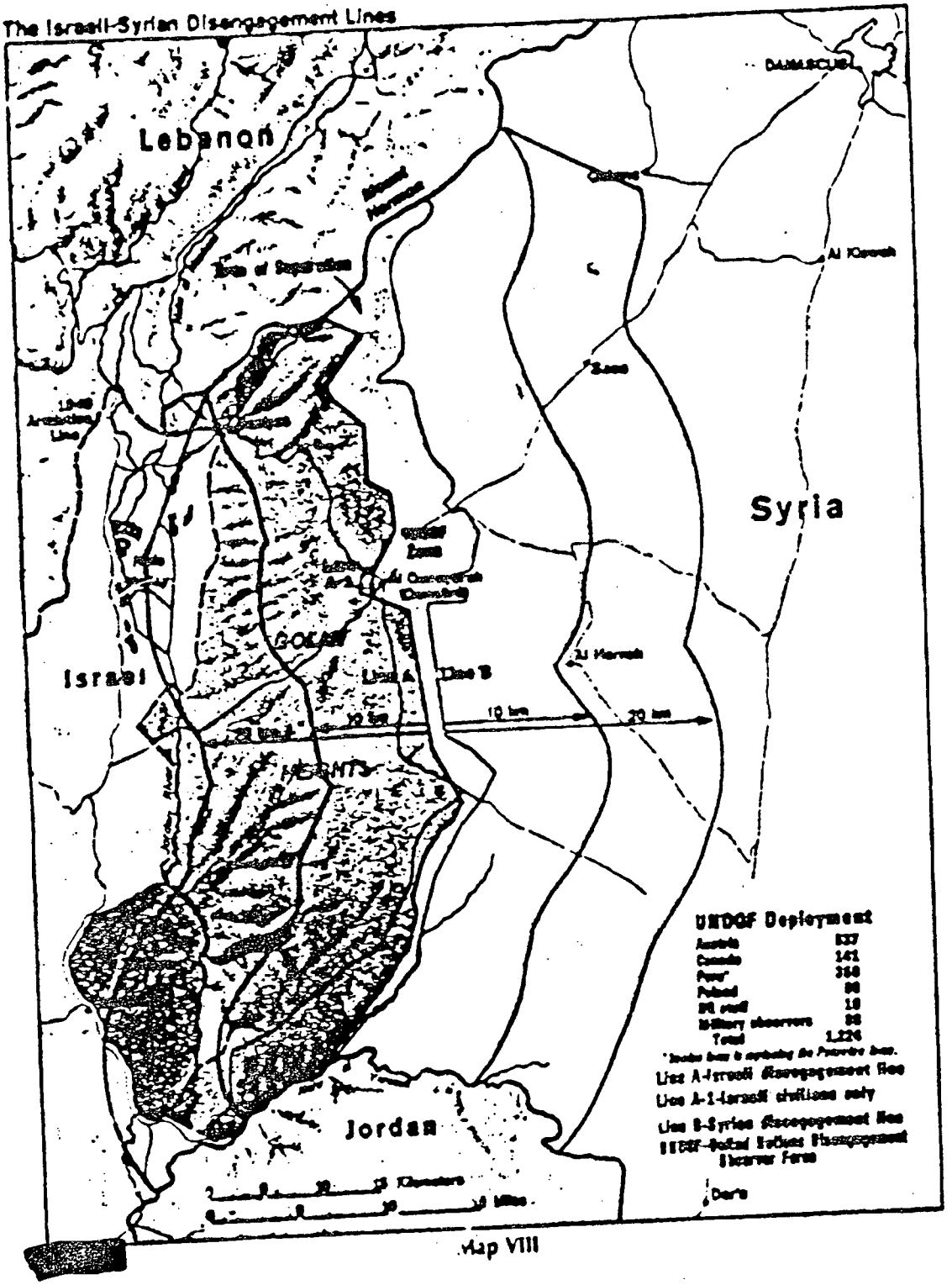
Map VII

PAGE #

84

BLANK

The Israeli-Syrian Disengagement Lines



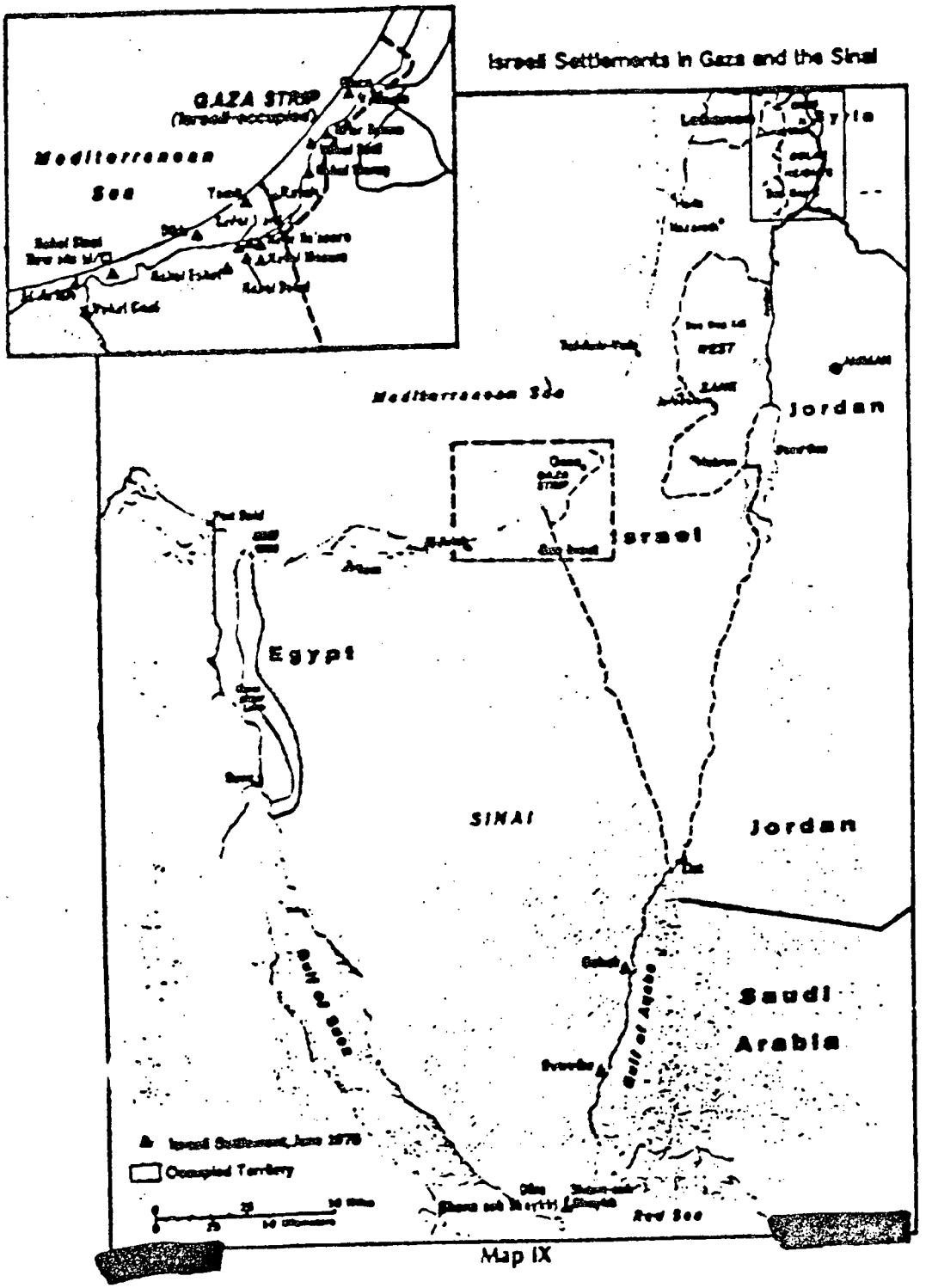
Map VIII

PAGE #

86

BLANK

Israeli Settlements in Gaza and the Sinai



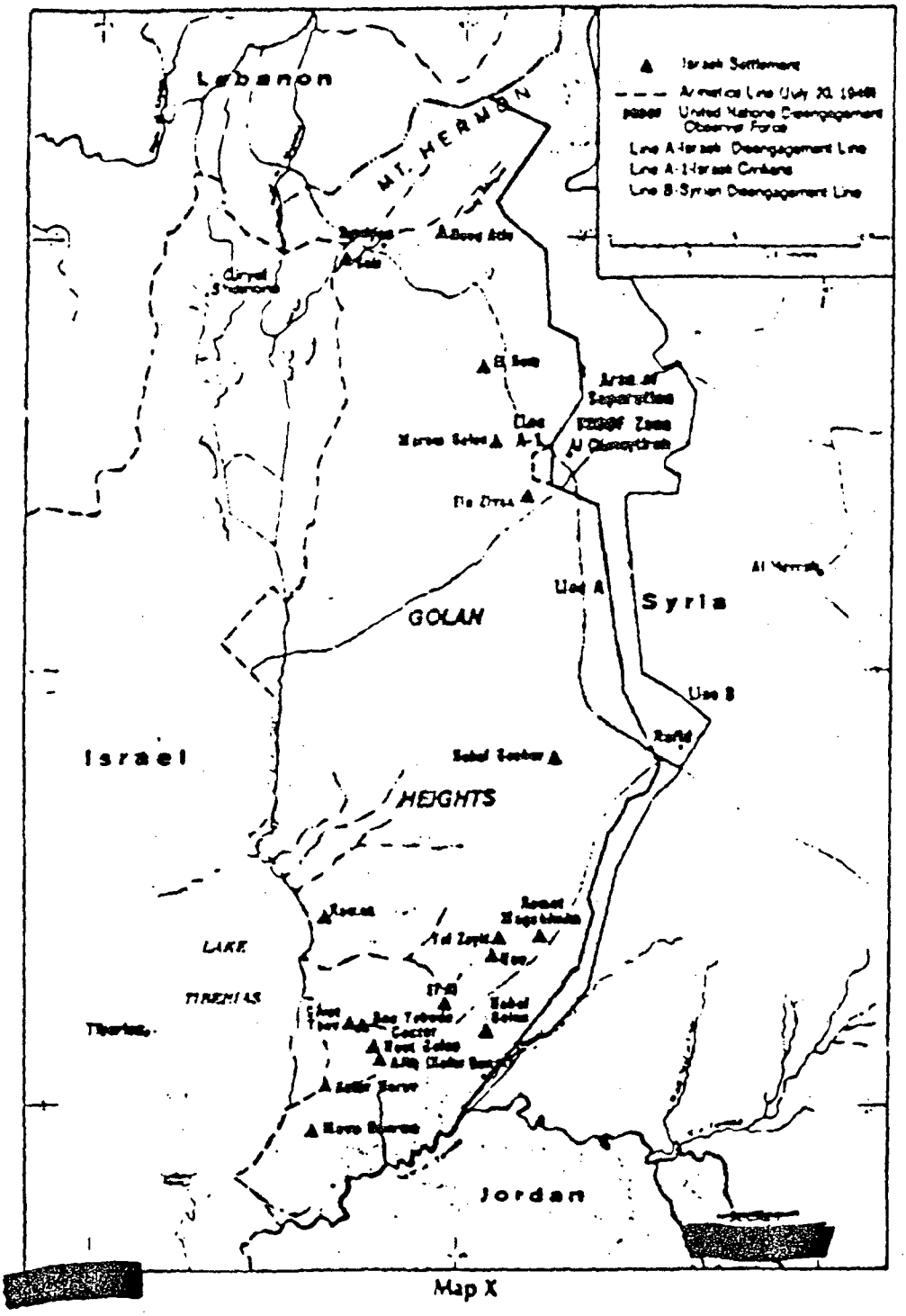
Map IX

PAGE #

88

BLANK

Israeli Settlements on the Golan Heights



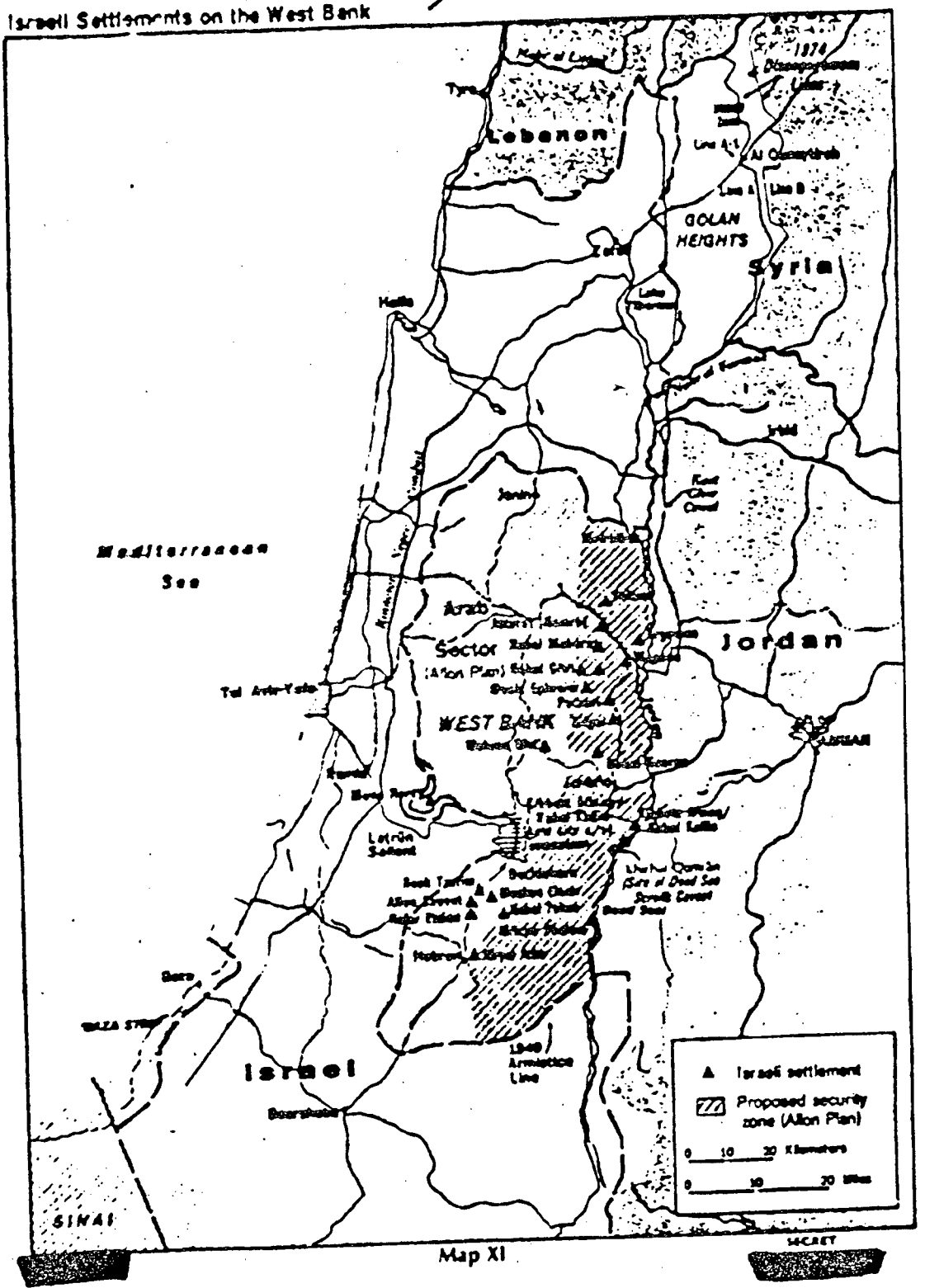
Map X

PAGE #

90

BLANK

Israeli Settlements on the West Bank

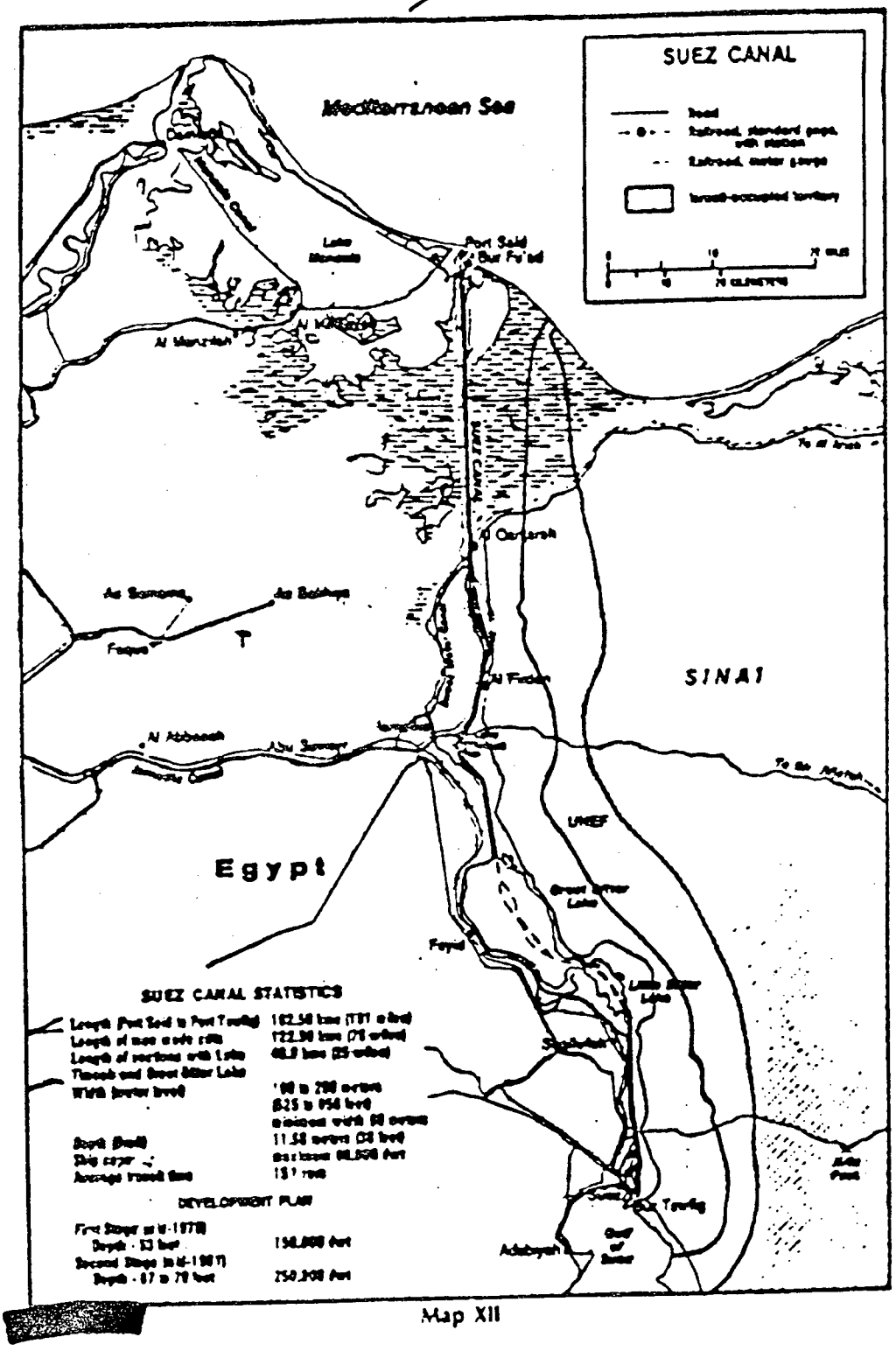


Map XI

PAGE #

92

BLANK

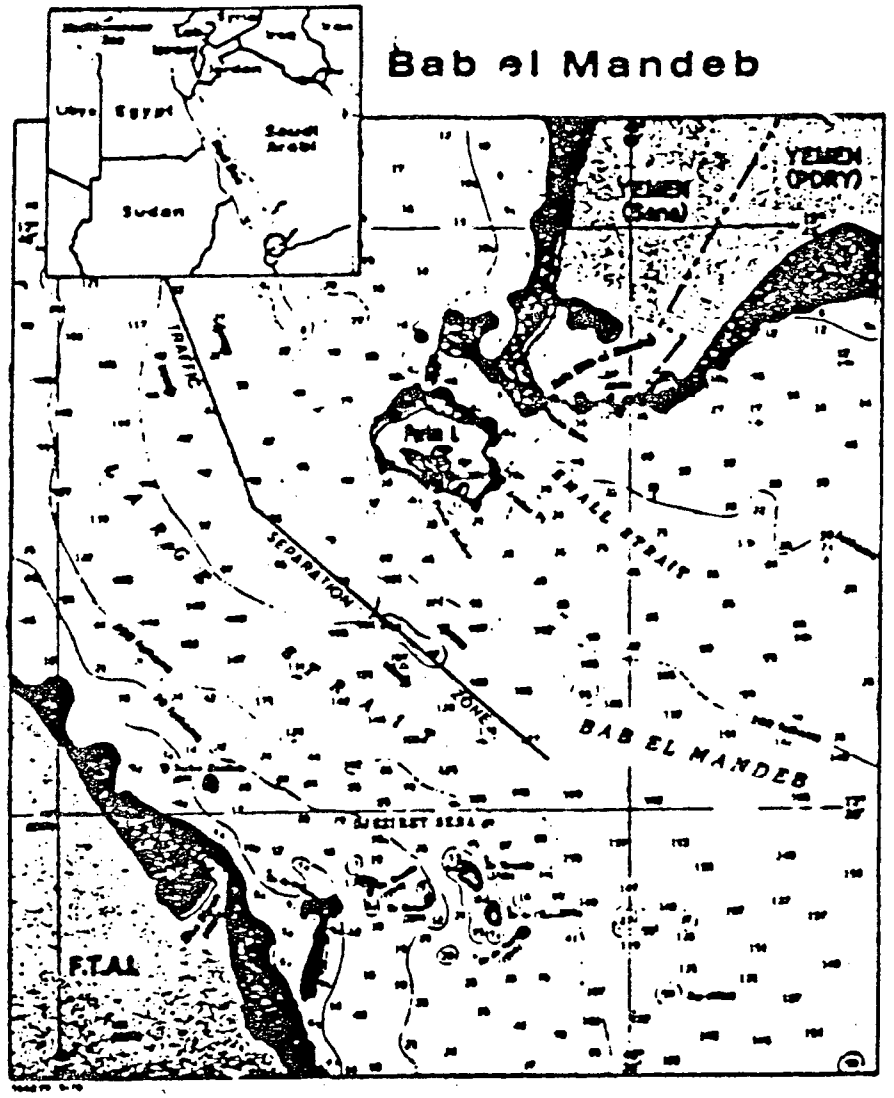

SUEZ CANAL
Mediterranean Sea
Port Said
Port Fuad
Lake Manzala
Al Manzalah
N Qantarah
Ash Shamam
Ash Balayim
Faqus
N Fayidah
SINAI
N Abbasah
Ash Sharqiyah
Egypt
UNEF
Great Bitter Lake
Fayid
Little Bitter Lake
Suez
Adabiyah
Gulf of Suez
SUEZ CANAL STATISTICS
DEVELOPMENT PLAN

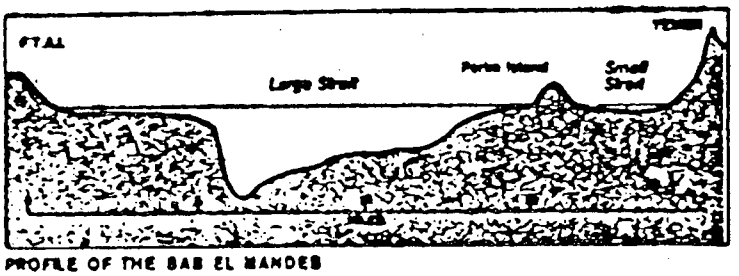
Map XII

PAGE #

94

BLANK





PROFILE OF THE BAB EL MANDEB

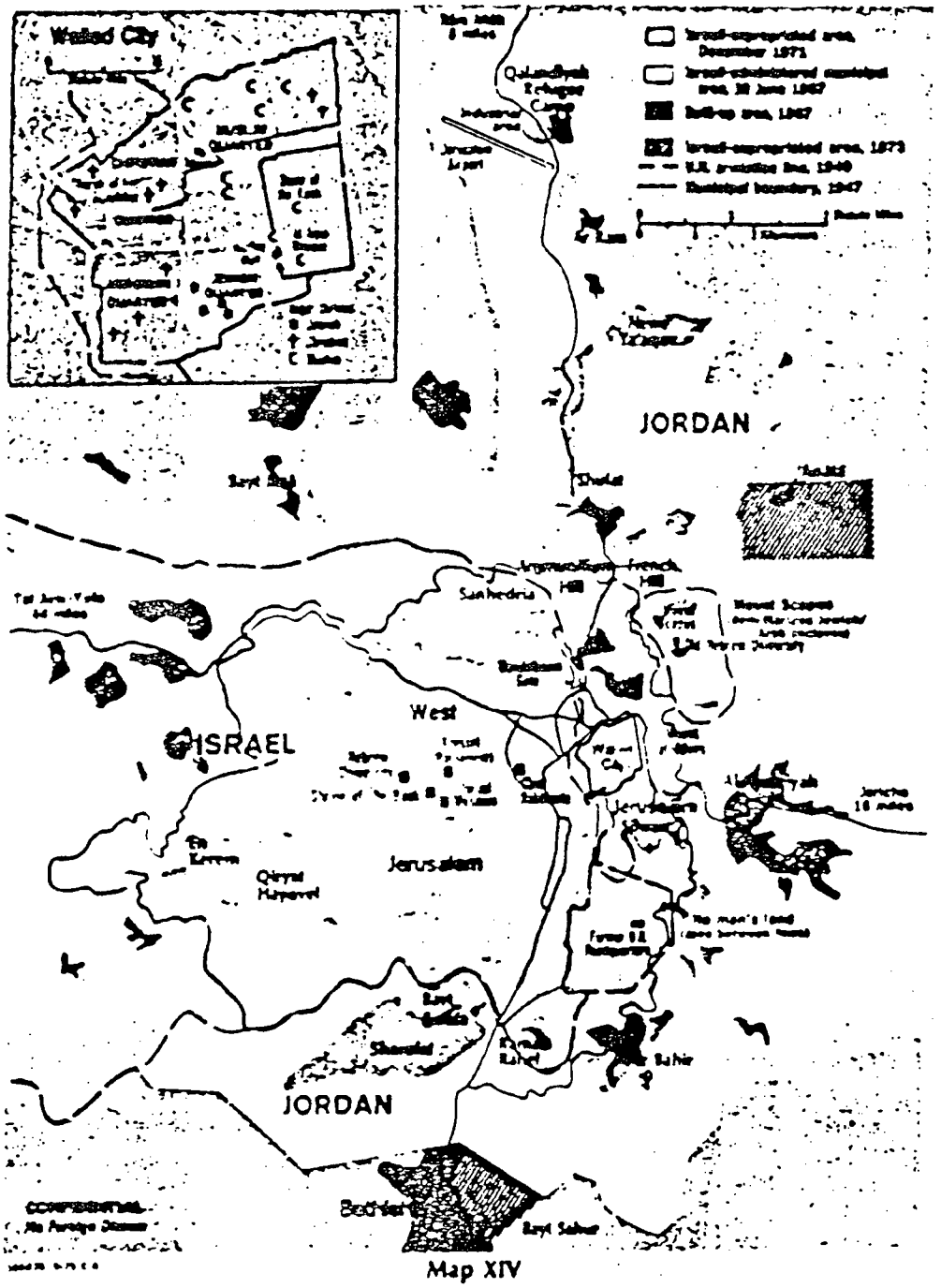
Map XIII

PAGE #

96

BLANK

Israel-Jordan Jerusalem Administration

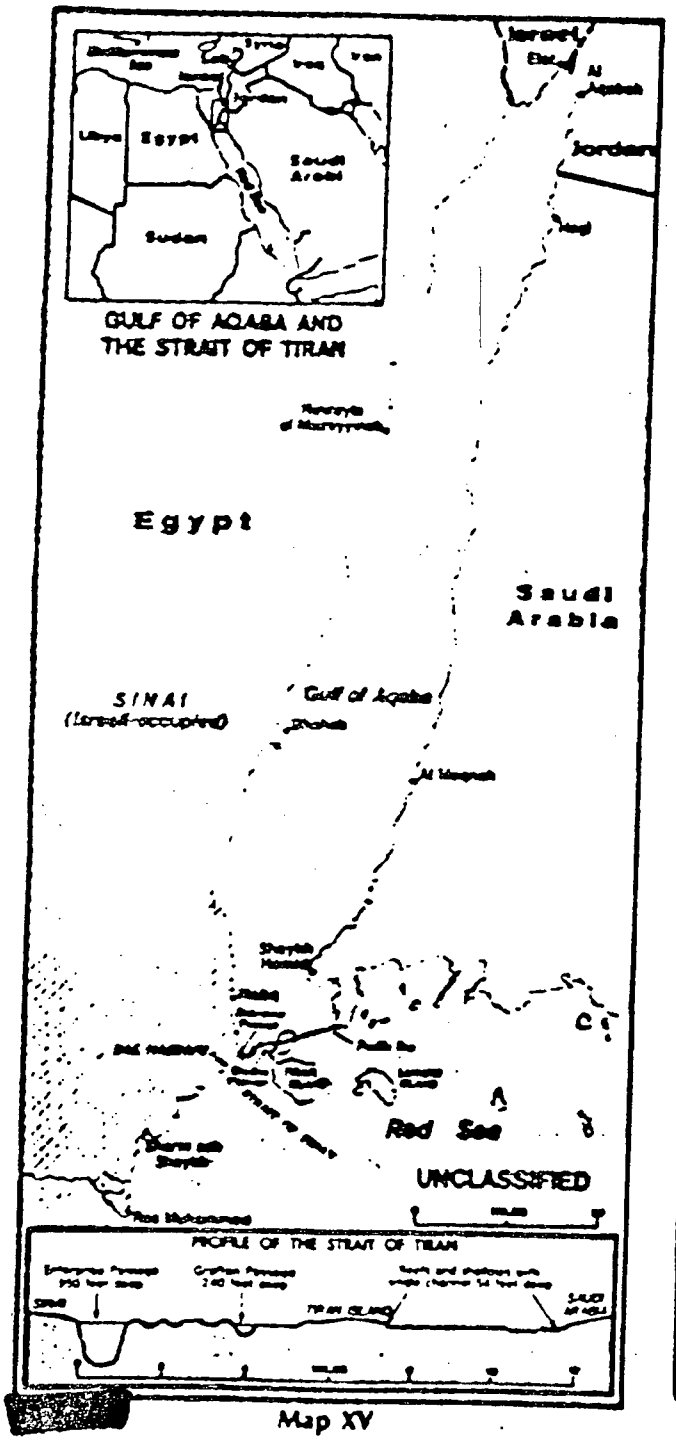


Map XIV

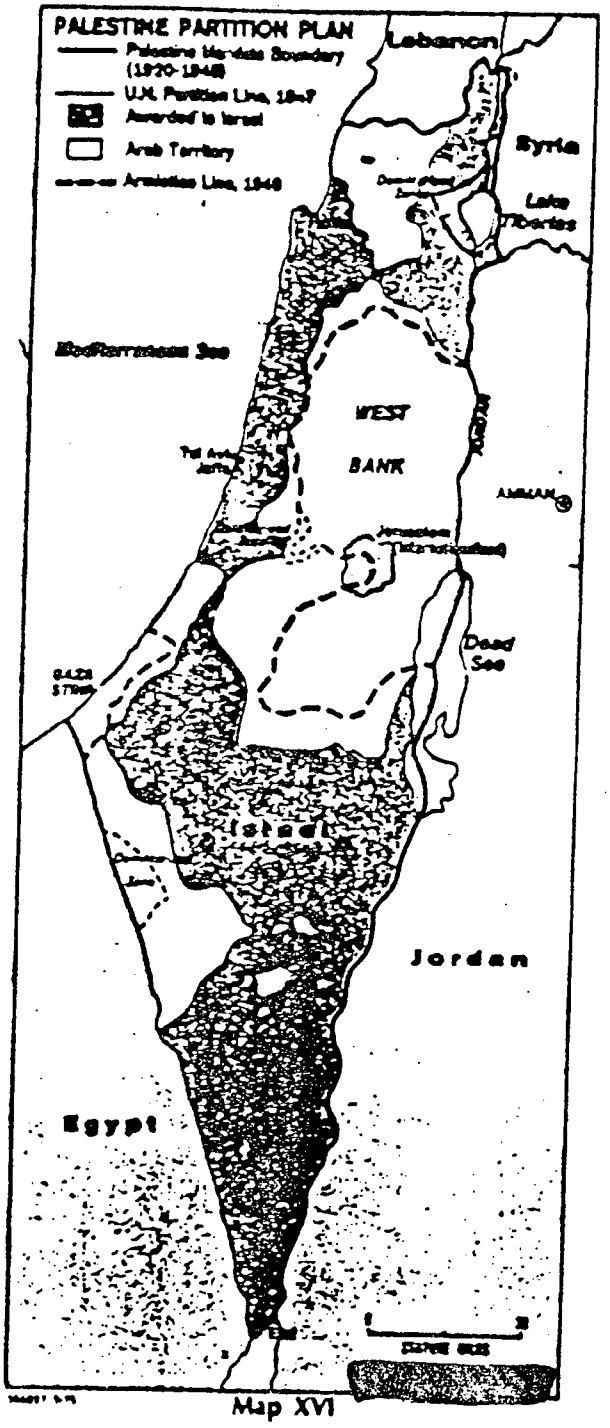
PAGE #

98

BLANK



Map XV



Map XVI

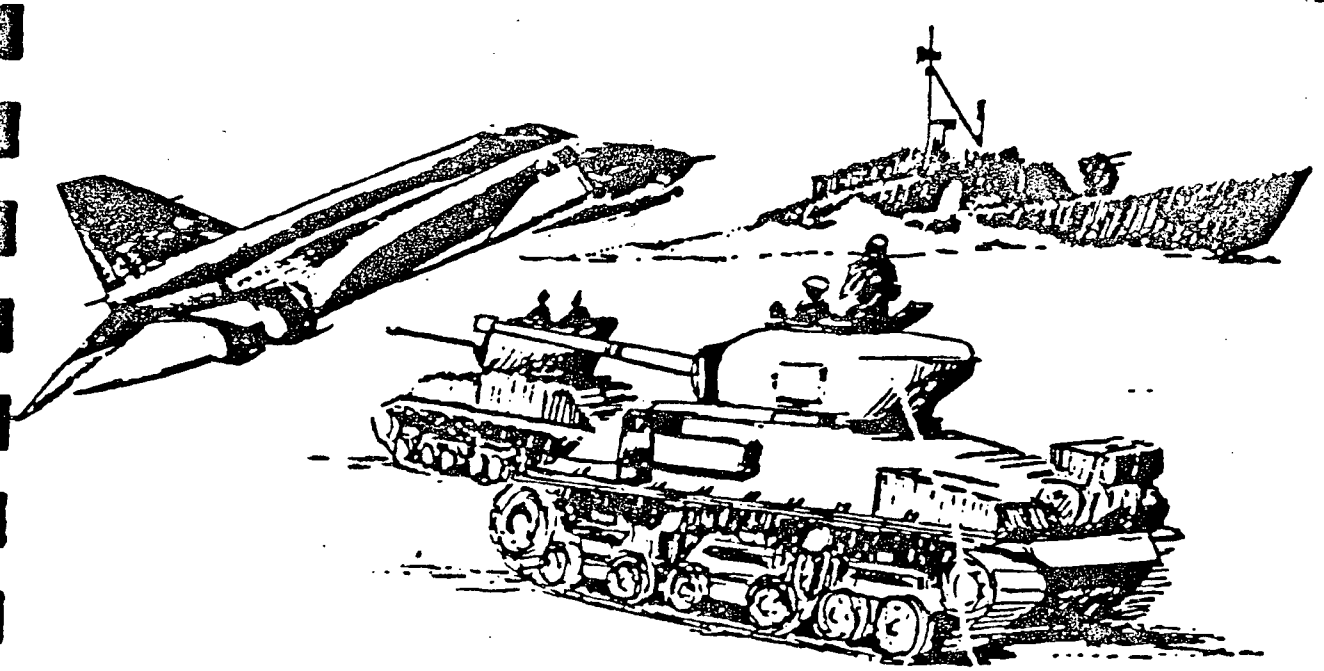
PAGE

100

BLANK

GLOSSARY

PERFORMANCE CHARACTERISTICS OF SELECTED ARAB AND ISRAELI MILITARY EQUIPMENT

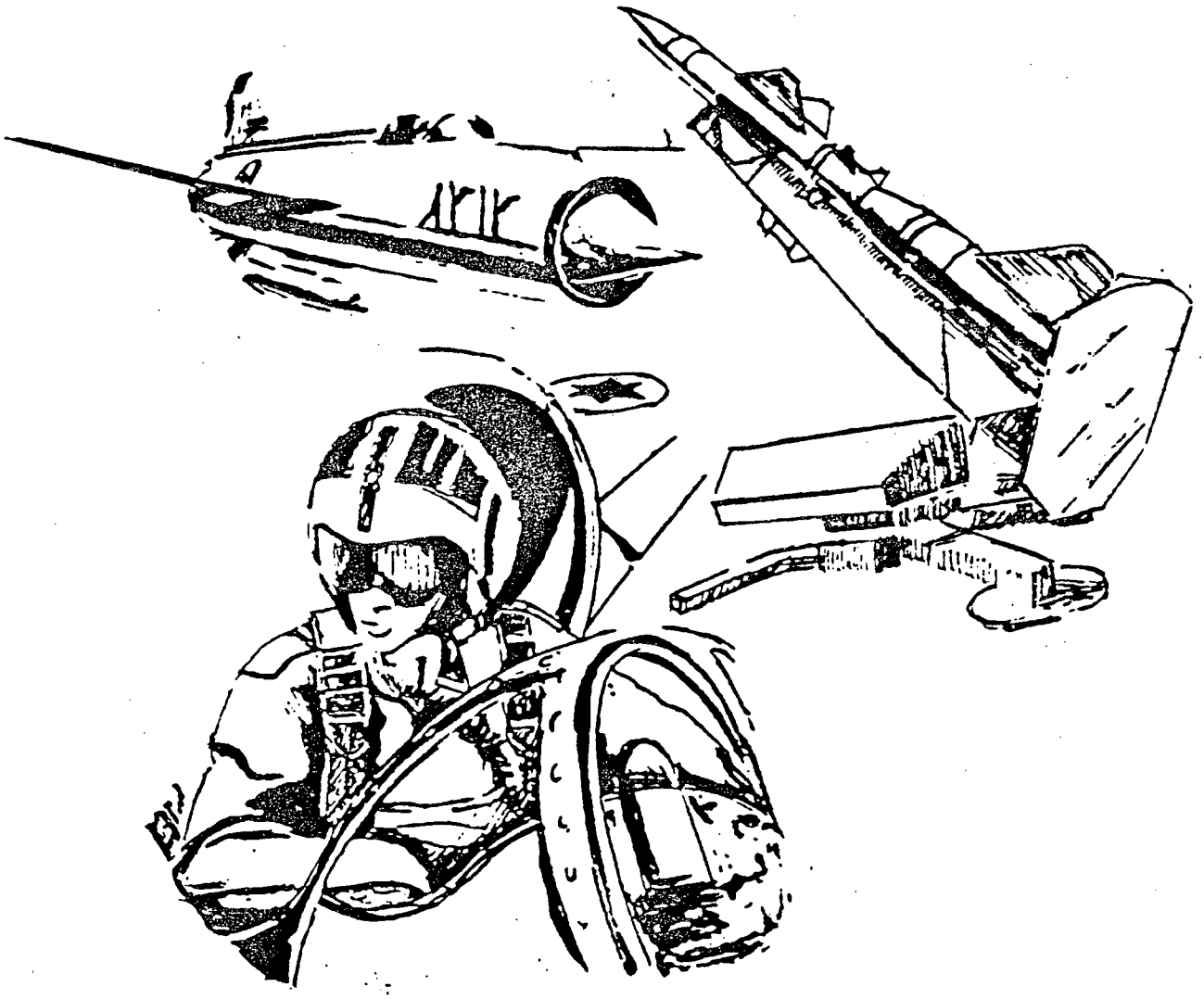


PAGE

-102 (MISSING ON film)

BLANK

I. AIRCRAFT* AND AIR DEFENSE EQUIPMENT



*Performance characteristics vary with operational profile.

PAGE

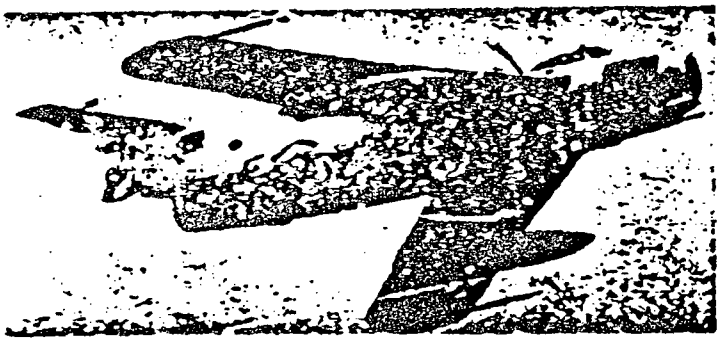
104 (missing on film)

BLANK

MIG-15 (FAGOT) and MIG-17 (FRESCO)

Fighters

Egypt, Syria, Iraq, Algeria, Yemen (Sana), Yemen (Aden), Sudan



CHARACTERISTICS	MIG-15	MIG-17
Radius (HiLoHi) (w/payload)	130 nm	280 nm
Payload	1,700 lbs	1,100 lbs
Speed (sea level)/(optimum altitude)	590 kts	570/620 kts
Combat ceiling	50,600 ft	48,300 ft
Engines	1	1

ARMAMENT

Guns, bombs, rockets, radar beam-riding or infrared homing missiles.

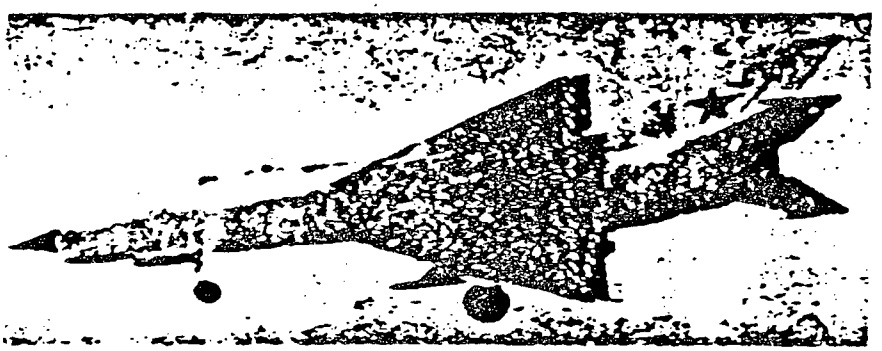
REMARKS

The MIG-15/17s equate most closely to the US F-86 SABRE jet.

MiG-21 (FISHBED)

Fighter

Egypt, Syria, Iraq, Algeria, Sudan, Yemen (Aden)



CHARACTERISTICS

Radius (HI-LO-HI)	470 nm (w/2 ATOLL) 325 nm (w/bombs and ammo.)
Payload	3,300 lbs
Speed (sea level)/(optimum altitude)	660/1,260 kts
Combat ceiling	59,600 ft
Engines, turbojet	1

ARMAMENT

Guns, bombs, rockets, two infrared homing or radar beam-riding missiles.

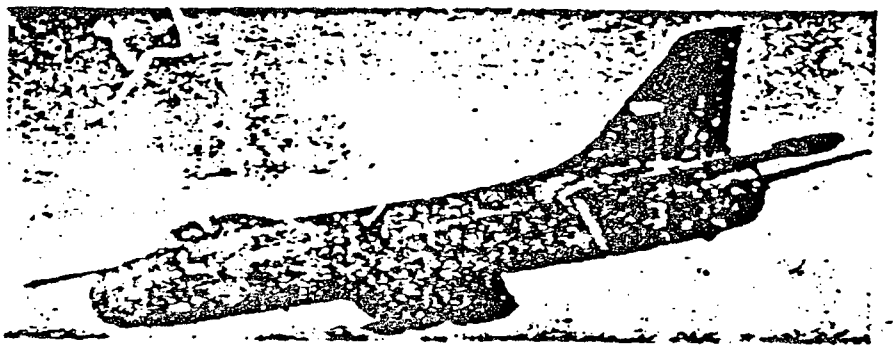
REMARKS

The FISHBED equates most closely to the US F-104 STARFIGHTER. The Arab countries have at least five versions of this aircraft: the FISHBED C, a tactical day fighter, the FISHBED D, F, J, an all-weather fighter, and the FISHBED H, a reconnaissance aircraft.

SU-7 (FITTER A)

Fighter/Bomber

Egypt, Syria, Iraq, Algeria



CHARACTERISTICS

Radius (HiLoHi) (w/ pylons)	175 nm
Payload	4,400 lbs
Speed (sea level)/(optimum altitude)	625/1,025 kts
Combat ceiling	56,000 ft
Engines, turbojet	1

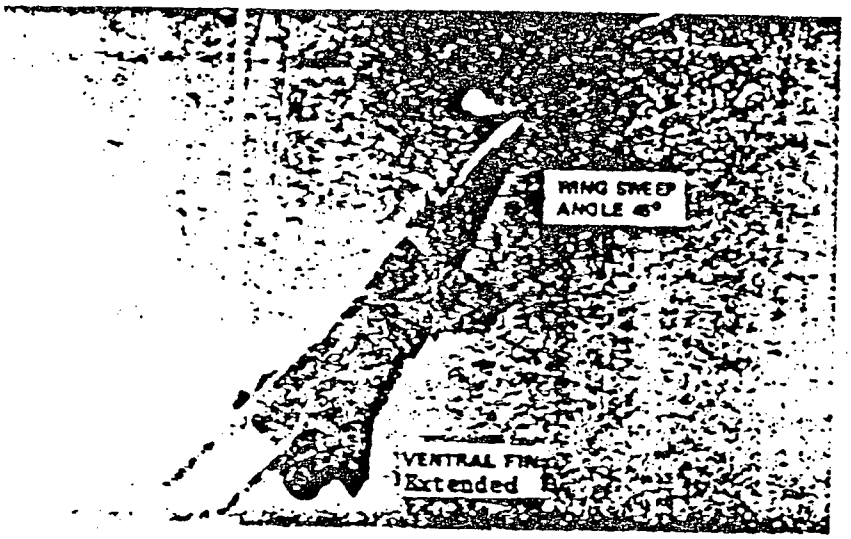
ARMAMENT

Guns, bombs, rockets, 2 infrared homing missiles.

MiG-23 (FLOGGER)

Fighter Bomber

Egypt, Libya, Iraq, Syria



CHARACTERISTICS

Radius (optimum)	670 nm
Maximum payload	4,400 lbs
Speed (sea level/optimum altitude)	660/1,320 kts
Combat ceiling	62,000 ft
Engines, turbojet	1

ARMAMENT

Guns, bombs, rockets, and missiles.

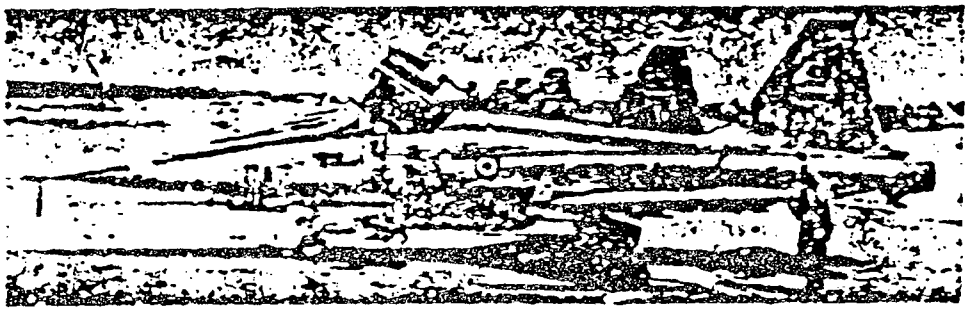
REMARKS

The FLOGGER strongly resembles the F-4 from the wing roots forward. It was shown in the 1967 Moscow Air Show and entered service in 1971.

F-5 (FREEDOM FIGHTER)

Fighter

Libya, Saudi Arabia, Jordan



CHARACTERISTICS

Radius	225 nm
Speed	565 kts
Combat ceiling	39,700 ft
Engines	2, jet

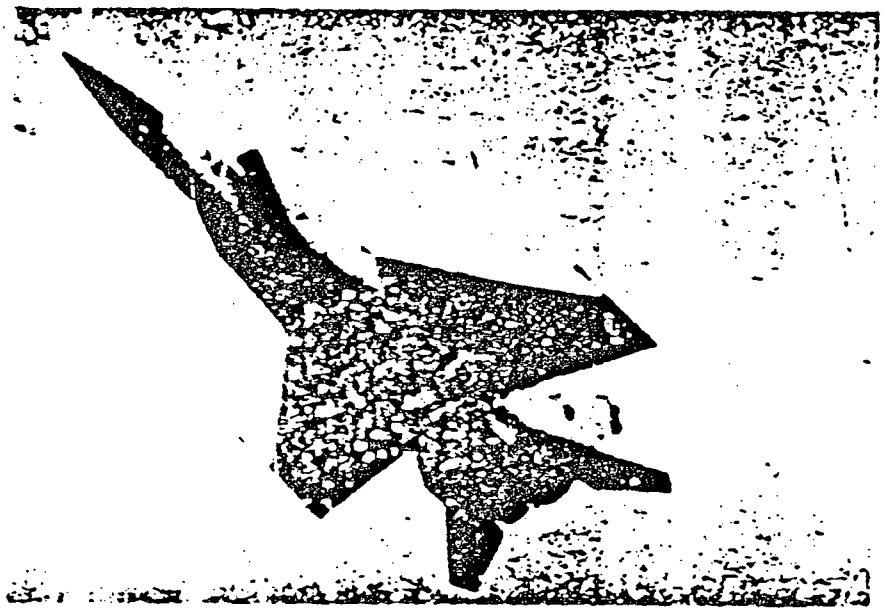
ARMAMENT

Guns, bombs, and rockets.

FOXBAT

Fighter

- Soviet operated elements located in Egypt



CHARACTERISTICS

Radius	670 nm
Payload	unk.
Speed (sea level)/(optimum altitude)	540/1,605 kts
Combat ceiling	75,600 ft
Engines	2

ARMAMENT

Four air-to-air missiles.

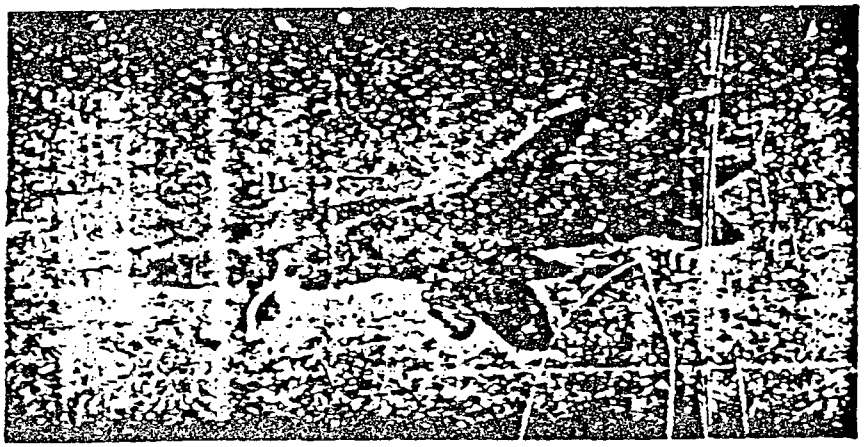
REMARKS

First observed at the Moscow air show in 1967. Its mission capabilities are probably three-fold: intercept, high-altitude strike, reconnaissance. Soviets began operational deployment of FOXBAT aircraft in mid-1970.

SU-20 (FITTER C)

Fighter Bomber

Egypt, Syria, Iraq



CHARACTERISTICS

Radius (HiLoHi) (w/payload)	260 nm
Payload	8,800
Speed (sea level/optimum altitude)	625/1,025 kts
Combat ceiling	56,000 ft
Engines, turbojet	1

ARMAMENT

Two 30mm cannons.

REMARKS

SU-20 engine is still not completely analyzed, but contains many unusual features.

F-104 (STARFIGHTER)

Fighter

Jordan

CHARACTERISTICS

Radius	350 nm
Speed	1,070 kts
Combat ceiling	55,000 ft
Engines	1, jet

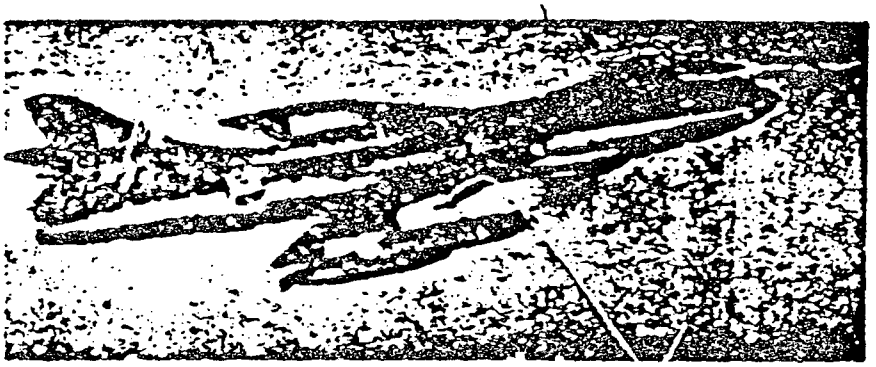
ARMAMENT

Guns and rockets.

HAWKER-HUNTER

Fighter

Kuwait, Qatar, UAE,
Oman, Iraq, Lebanon



CHARACTERISTICS

Radius	270 nm
Speed	530 kts
Combat ceiling	45,000 ft
Engines	1, turbojet

ARMAMENT

Cannon, bombs, and rockets.

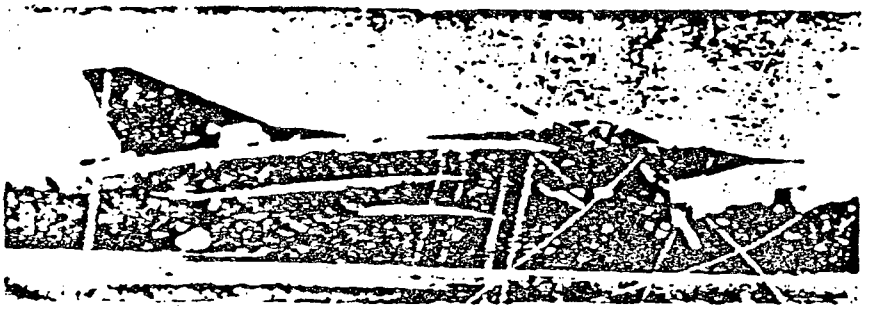
REMARKS

Produced by Hawker Siddeley.

MIRAGE III B-C, -E, -R

Fighter

Israel, Lebanon



CHARACTERISTICS

Radius	260 nm/(C); 790 nm (E)
Payload	2,000 lbs
Speed (sea level/optimum altitude)	600/1,050 kts
Combat altitude	50,000-60,000 ft
Engines, turbojet	1

ARMAMENT

Cannon, bombs, air-to-air and air-to-surface rockets and missiles.

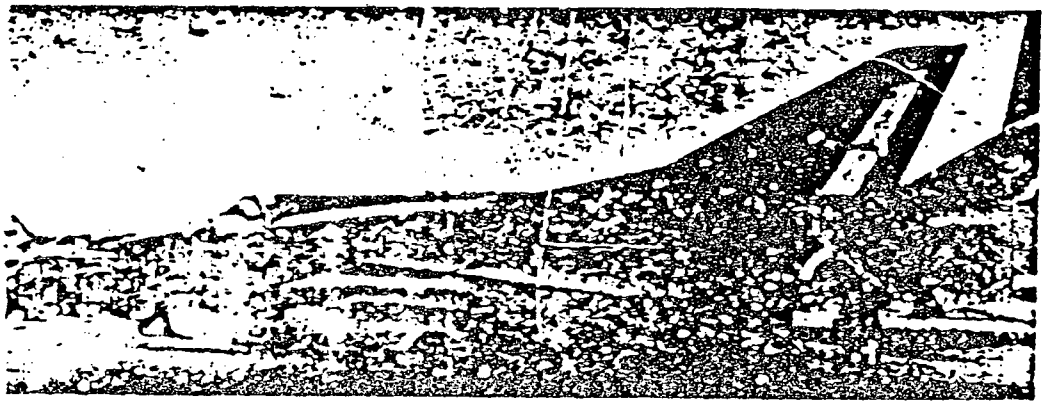
REMARKS

Produced by Avions Marcel Dassault. The nearest US counterpart is the F-8.

MIRAGE 5

Fighter/Bomber

Israel, Egypt, Libya, UAE



CHARACTERISTICS

Radius	700 nm
Payload	unk.
Speed (sea level)/(optimum altitude)	730/1,270 kts
Combat altitude	57,550 ft
Engines, turbojet	1

ARMAMENT

Cannon, bombs, air-to-air and air-to-surface rockets and missiles.

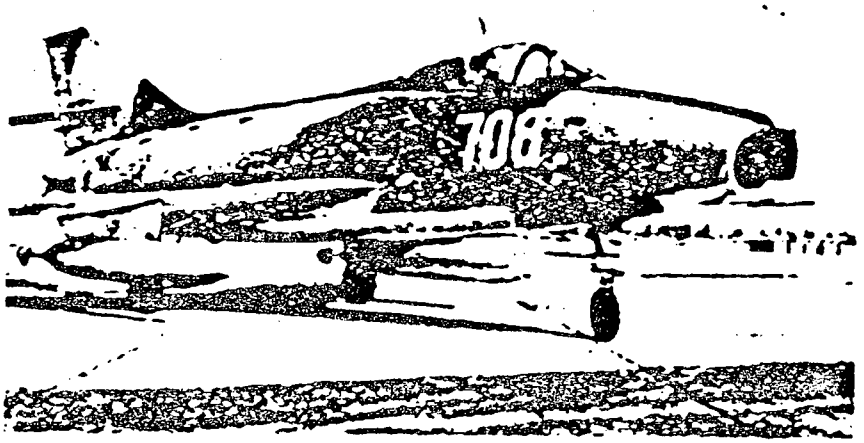
REMARKS

A follow-on development of the MIRAGE IIIE. Major changes include expanded fuel capacity, added two feet in overall length, a greatly reduced and simplified avionics package, and a greater external store capacity. In Israel, this aircraft is called "Super Mirage" and was assembled from indigenously produced and imported parts.

SUPER MYSTERE IV

Fighter

Israel



CHARACTERISTICS

Radius	630 nm
Speed (sea level/optimum altitude)	490/650 kts
Combat ceiling	55,000 ft
Engines, turbojet	1

ARMAMENT

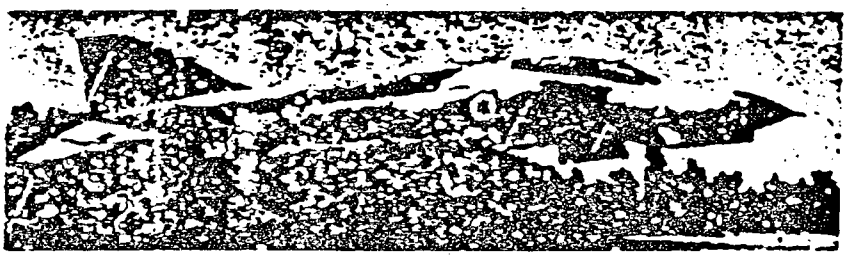
Cannon, bombs, air-to-air and air-to-surface rockets.

REMARKS

Produced by Avions Marcel Dassault. The nearest US counterpart is the F-86A.

F-4E PHANTOM

Fighter/Bomber



CHARACTERISTICS

Radius	440 nm
Payload	12,800 lbs
Speed (sea level/optimum altitude)	760/1,220 kts
Combat ceiling	65,000 ft
Engines, turbojet	2

ARMAMENT

20-mm cannon, air-to-air and air-to-surface rockets, missiles, and bombs.

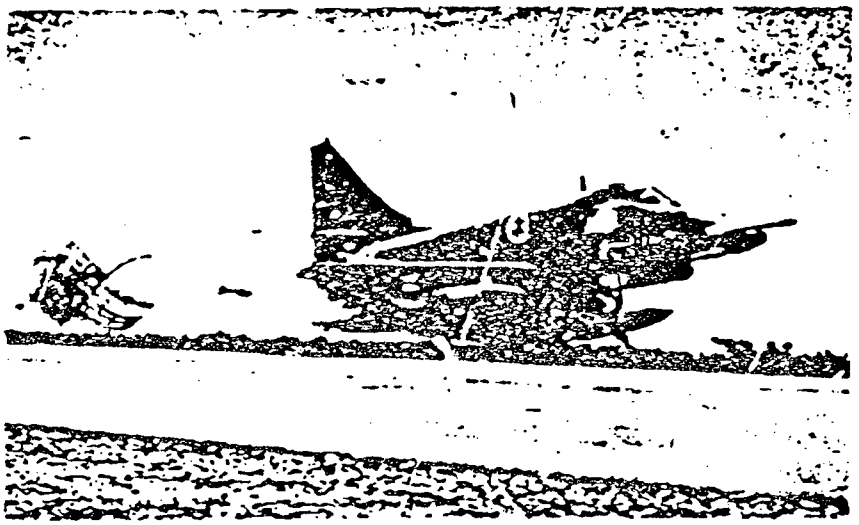
REMARKS

Produced by McDonnel-Douglas Corporation.

A-4 SKYHAWK

Fighter/Bomber

Israel



CHARACTERISTICS

Radius (with tanks)	500 nm
Payload	8,000 lbs
Speed (sea level/optimum altitude)	420/585 kts
Combat ceiling	44,600 ft
Engines	1, jet

ARMAMENT

Guns, bombs, mines, torpedos, rockets, missiles.

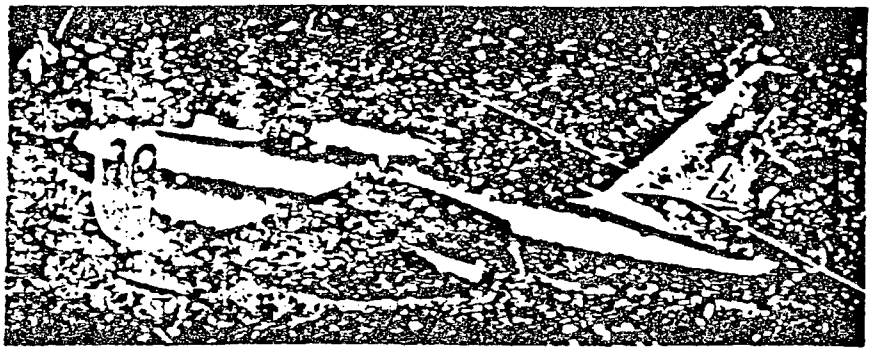
REMARKS

Produced by McDonnel-Douglas. 36 are to be delivered to Kuwait.

IL-28 (BEAGLE)

Bomber

Egypt, Iraq, Algeria,
Yemen (Aden), Yemen (Sana)



CHARACTERISTICS

Radius	670 nm
Payload	6,600 lbs
Speed (sea level/optimum altitude)	430/490 kts
Combat ceiling	41,700 ft
Engines, jet	2

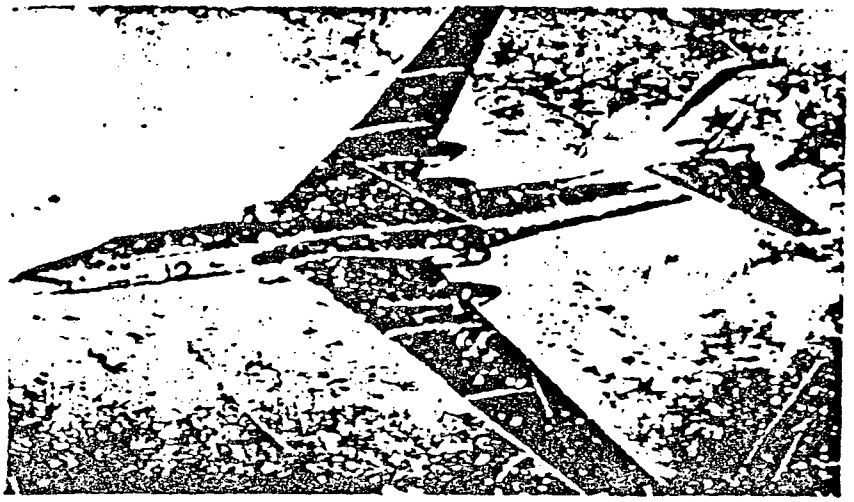
REMARKS

It probably equates most closely to the US B-57 and the British CANBERRA bomber.

TU-16 (BADGER)

Bomber

Egypt, Iraq



CHARACTERISTICS	A	G
Radius	1,650 nm	1,200 nm
Payload	30,000 lbs	30,000 lbs
Speed (sea level/optimum altitude)	380/549 kts	320/530 kts
Combat ceiling	44,800 ft	45,100 ft
Engines, jet	2	2

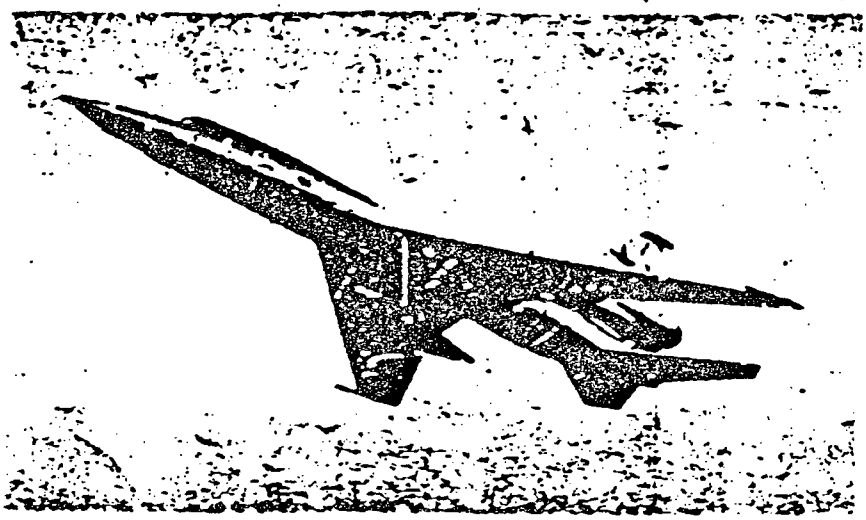
REMARKS

The TU-16 equates to the US B-47 STRATOJET. BADGER G carries Kelt air-to-surface missile. Egypt has ten BADGER G's.

TU-22 (BLINDER A)

Bomber

Iraq



CHARACTERISTICS

Radius	1,740 nm
Target speed	860 kts/Mach 1.5
Cruise speed	555 kts
Combat ceiling	51,600 ft
Engines, jet	2
BOMB CAPACITY (max)	20,000 lbs
Normal bomb load	4,600 lbs

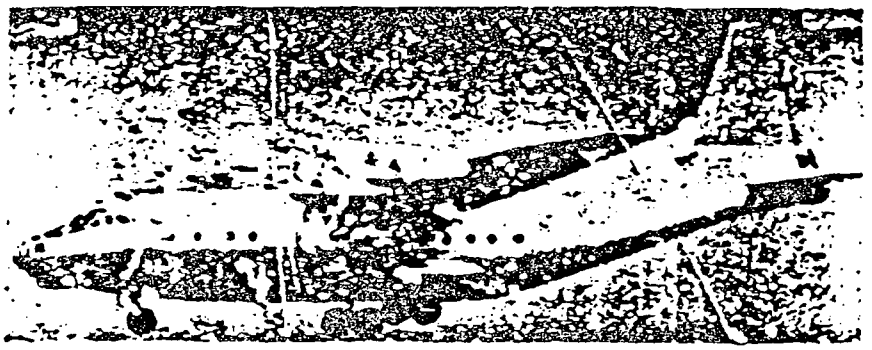
REMARKS

Iraq is currently the only recipient of the TU-22 outside the Soviet Union. The aircraft was used on Iraqi bombing missions against dissident Kurdish rebels during 1974. The TU-22 is believed to be a follow-on to the TU-16 and is capable of supersonic performance.

AN-12 CUB

Assault Transport

Egypt, Syria, Iraq, Algeria



CHARACTERISTICS

Range/radius (w/normal cargo)	2,000/970 nm
Normal cargo	21,500 lbs
Cruise speed	375 kts
Service ceiling	40,900 ft
Engines, turboprop	4
Troop/paratroop capacity	90/60

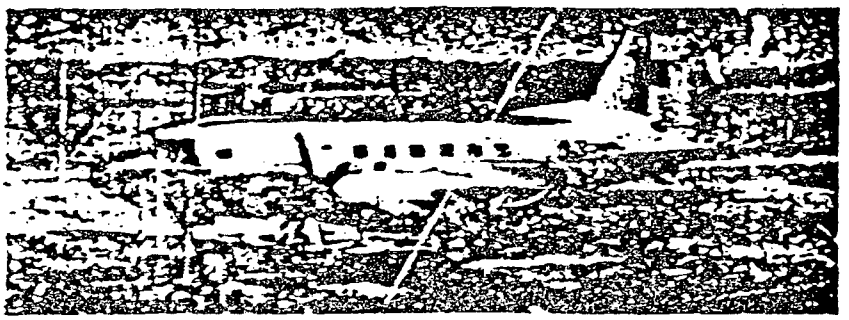
REMARKS

Used to supply men and material in close support combat areas. Wheeled vehicles and bulky items can be loaded through a ramp door in the rear of the fuselage.

IL-14 (CRATE)

Transport

Egypt, Syria, Yemen (Sanaa)



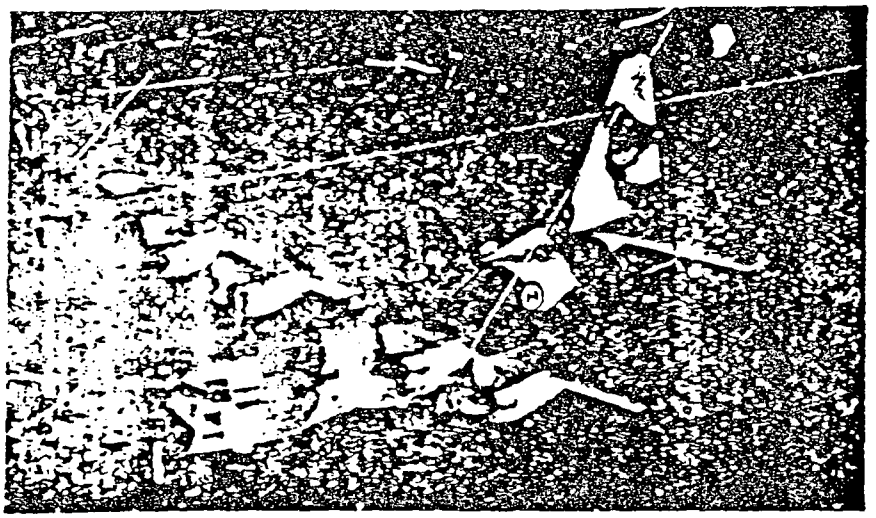
CHARACTERISTICS

Radius/range (w/normal cargo)	720/1,500 nm
Normal range (w/full fuel)	4,750 lbs
Average cruise speed	130 kts
Service ceiling	24,400 ft
Engines, reciprocating	2
Troop/paratroop capacity	18/18

C-130 (HERCULES)

Transport

Israel, Libya, Saudi Arabia, Jordan, Kuwait, United Arab Emirates



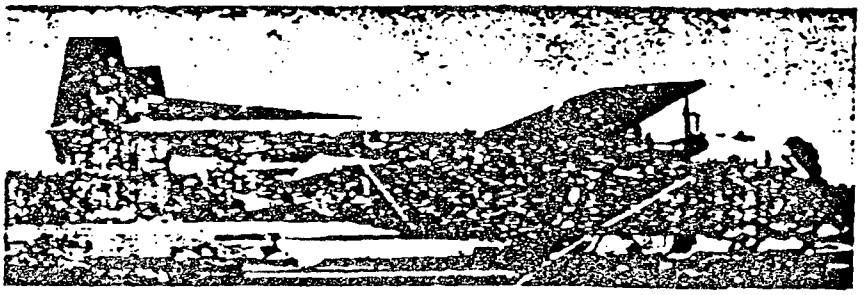
CHARACTERISTICS

Combat radius (with payload)	1,000 nm
Cargo payload	33,800 lbs
Cruise speed	291 kts
Service ceiling	35,800 ft
Engines, turboprop	4
Troop/paratroop capacity	92/64

NORD 2501 (NORATLAS)

Transport

Israel



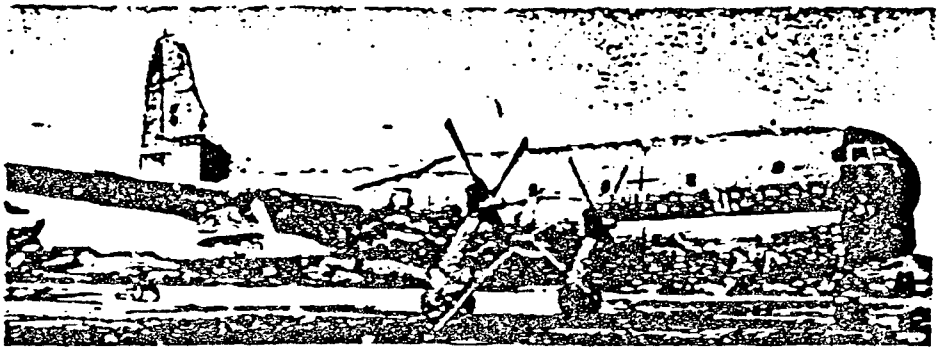
CHARACTERISTICS

Radius (w/normal cargo)	270 nm
Normal cargo	9,000 lbs
Average cruise speed	163 kts
Service ceiling	17,000 ft
Engines, reciprocating	2
Troop/parastroop capacity	45/36

C-97 (STRATOFREIGHTER)

Transport

Israel



CHARACTERISTICS

Radius (with payload)	1,000 nm
Cargo payload	38,950 lbs
Average cruise speed	194 kts
Service ceiling	30,000 ft
Engines, reciprocating	4
Troop/paratroop capacity	82/70

REMARKS

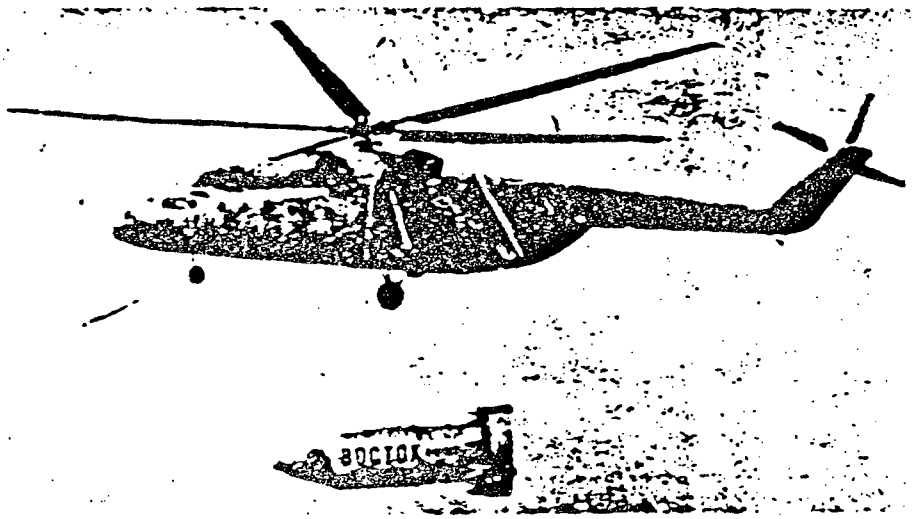
Israel has converted some C-97s to act as in-flight refueling tankers. Specific characteristics of these tankers are unknown. The characteristics of the US KC-97G may approximate the Israeli conversions.

Maximum speed	325 kts
Combat radius	1,000 nm (w/max cargo)
Maximum range	3,700 nm
Transfer fuel	23,310 lbs

MI-6 (HOOK)

Helicopter

Egypt, Iraq, Algeria



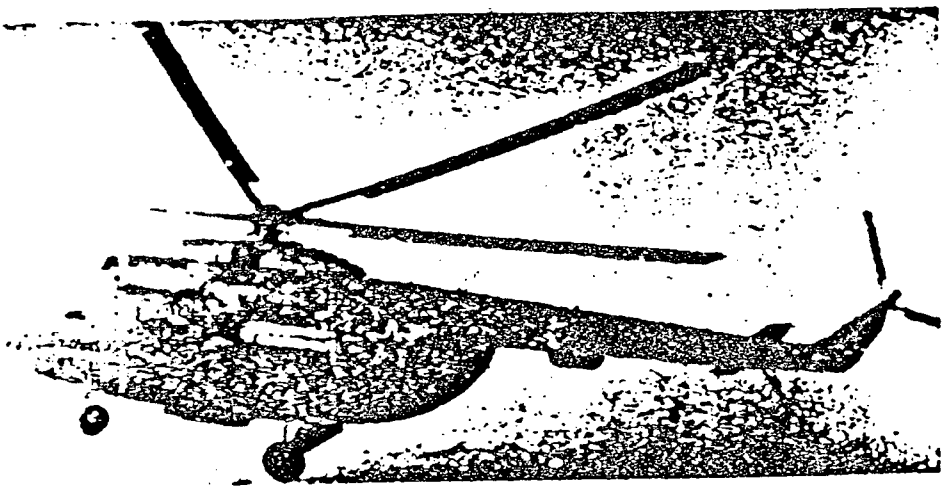
CHARACTERISTICS

Radius (w/normal cargo)	155 nm
Normal cargo (w/full fuel and hover take off)	17,550 lbs
Average cruise speed (at 2,000 ft)	140 kts (normal cargo)
Service ceiling	9,800 ft
Engines, turbine	2
Troop capacity	65

MI-8 (HIP)

Helicopter

Egypt, Iraq, Syria, Sudan, Yemen (Aden)



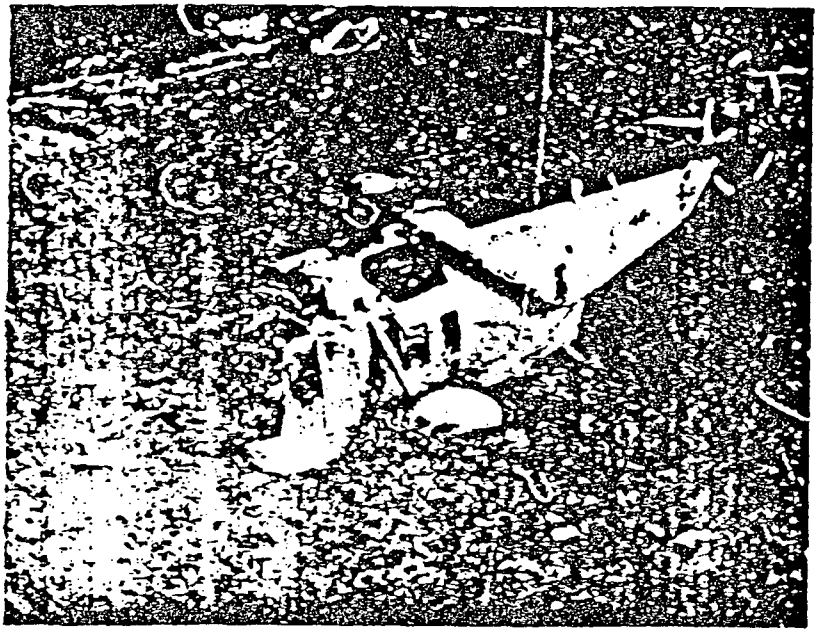
CHARACTERISTICS

Radius (w/normal cargo)	120 nm
Normal cargo (w/full fuel and hover take off)	10,400 lbs
Average cruise speed	115 kts
Service ceiling	13,500 ft
Engines, turbine	2
Troop capacity	24

WESTLAND COMMANDO/SEA KING

Helicopter

Egypt



CHARACTERISTICS

Radius	350 nm
Normal cargo	6,000 lbs
Cruise speed	110 kts
Service ceiling	10,000 ft
Engines, turboshaft	2
Troop capacity	27

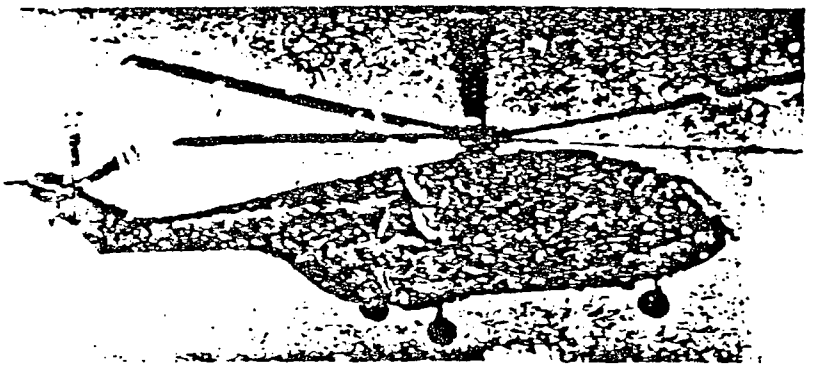
REMARKS

This British helicopter model was purchased by Saudi Arabia for Egypt. The Sea King is an ASW helicopter, while the Commando version is a troop transport.

SUPER FRELON SA 321

Helicopter

Israel, Libya



CHARACTERISTICS

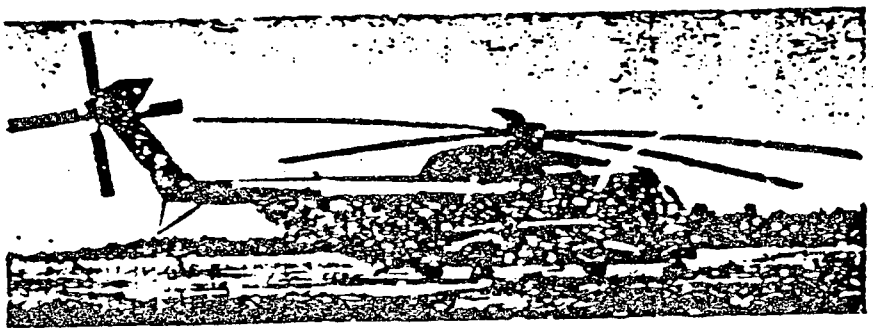
Radius (w/normal cargo)	280 nm
Normal cargo (w/full fuel)	7,450 lbs
Cruise speed	135 kts
Service ceiling	15,800 ft
Engines, turboshaft*	3
Troop capacity	30

*Israel has replaced original engines with General Electric T-58 engines.

SIKORSKY CH-53

Helicopter

Israel



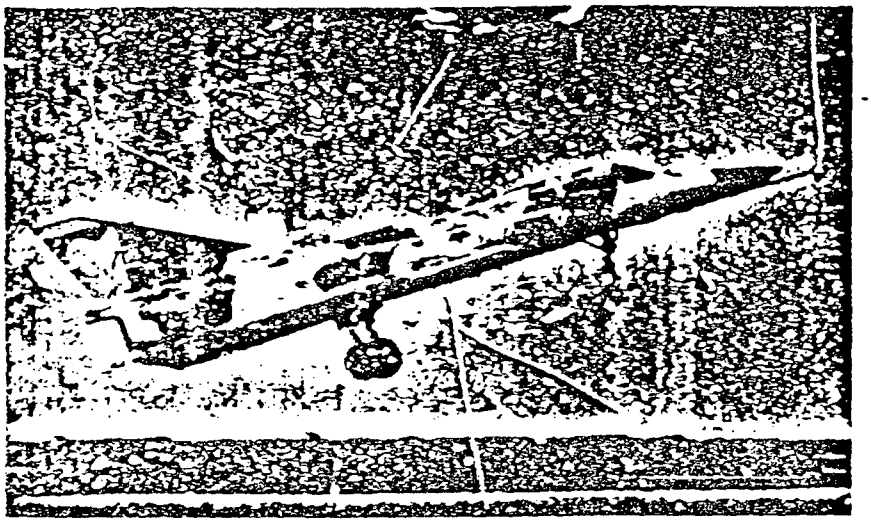
CHARACTERISTICS

Radius	280 nm
Normal cargo	9,000 lbs
Cruise speed	135 kts
Service ceiling	21,000 ft
Engines, turboshaft	2
Troop capacity	21

KFIR

Fighter Bomber

Israel

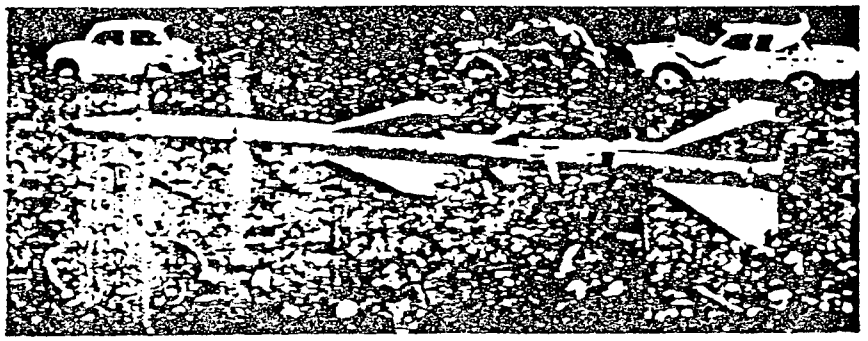


CHARACTERISTICS

Radius	unk.
Payload	10,000 lbs
Speed	1,630
Combat ceiling	50,000
Engine, turbojet	1

SA-2 GUIDELINE SURFACE-TO-AIR MISSILE

Egypt, Syria, Sudan, Algeria, Iraq, Libya

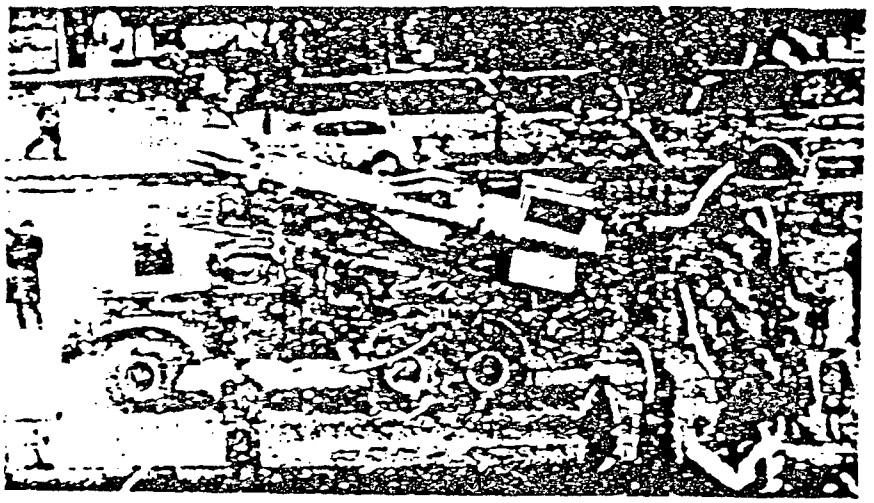


CHARACTERISTICS

Maximum operational range	19 nm-27 nm (improved version)
Altitude regime	1,000 to 90,000 ft
Warhead type/weight	HE/420 lbs
Guidance	Command
Accuracy	75 to 100 ft
Missile weight	5,450 lbs
Missile length	33.5 ft
Missile diameter	19.7 in

SA-3 GOA SURFACE-TO-AIR MISSILE

Egypt, Iraq, Syria, Libya

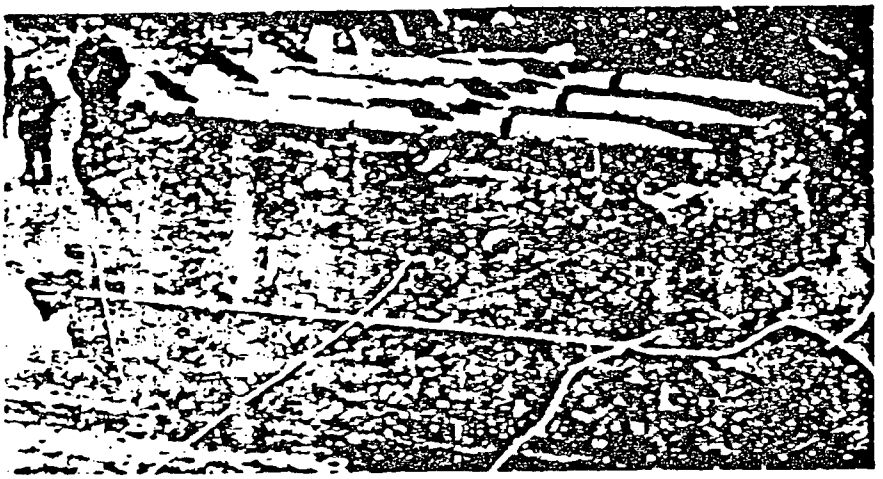


CHARACTERISTICS

Maximum operational range	About 12 nm
Altitude regime	[illegible] to 60,000 ft
Warhead type/weight	HE/160
Guidance	Command
Accuracy	About 30 ft
Missile weight	2,113 lbs
Missile length	20 ft
Missile diameter (booster)	14.2 in

SA-6 GAINFUL SURFACE-TO-AIR MISSILE

Egypt, Syria, Libya

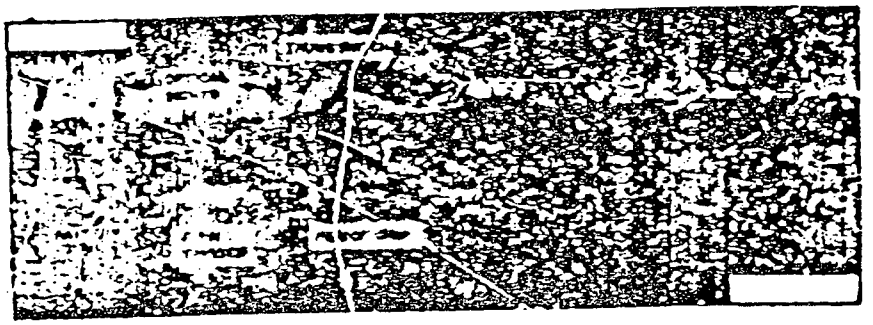


CHARACTERISTICS

Maximum operational range	12 nm
Altitude regime	100 ft (at ranges up to 5 nm) to 30,000 ft
Warhead type/weight	HE/125 lbs
Guidance	Semi-active homing
Accuracy	Possibly less than 25 ft
Missile weight	1,385 lbs
Missile length	18.5 ft
Missile diameter	1.1 ft

SA-7 GRAIL

Egypt, Iraq, Syria

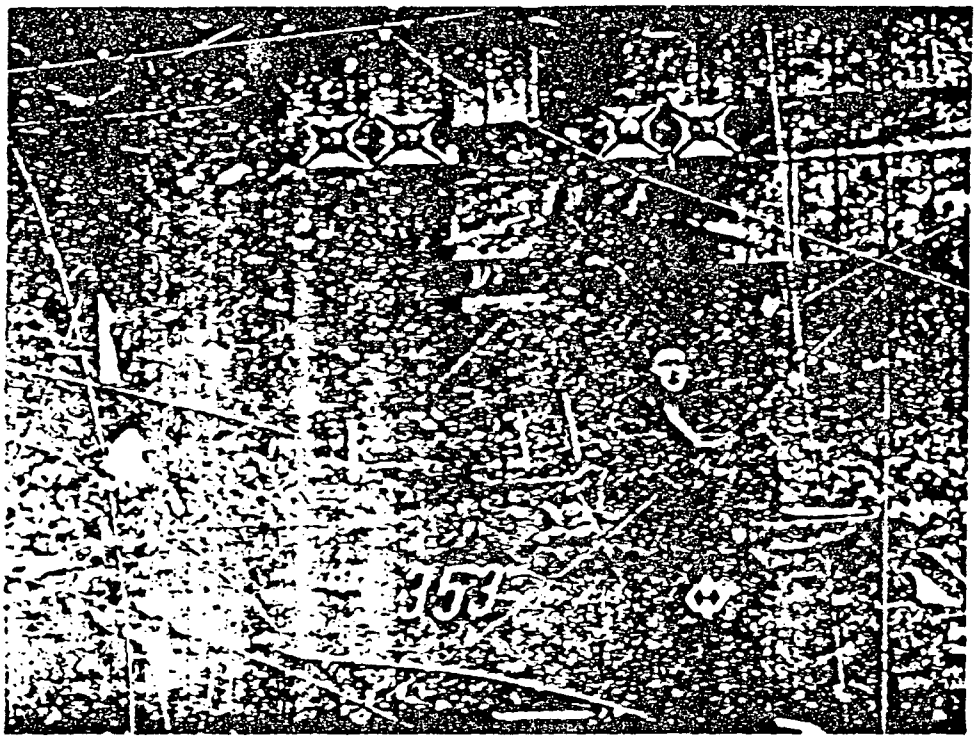


CHARACTERISTICS

Maximum operational range	2 nm
Maximum effective altitude	10,000 ft
Accuracy	2-5 ft
Guidance	Passive infrared homing
Launcher length	5 ft
Launcher diameter	4 in
Launcher weight with missile	30 lb

SA-9 GASKIN (VEHICLE MOUNTED GRAIL)

(Possible: Egypt, Syria)



CHARACTERISTICS (Estimated)

Maximum operational range	27-4 nm
Maximum effective altitude	15,000 ft
Accuracy	10 ft
Guidance	Passive infrared homing
Missile length	75-80 in
Missile diameter	4-5 in
Warhead	12 lb HE frag

HAWK SURFACE-TO-AIR MISSILE

Israel, Saudi Arabia

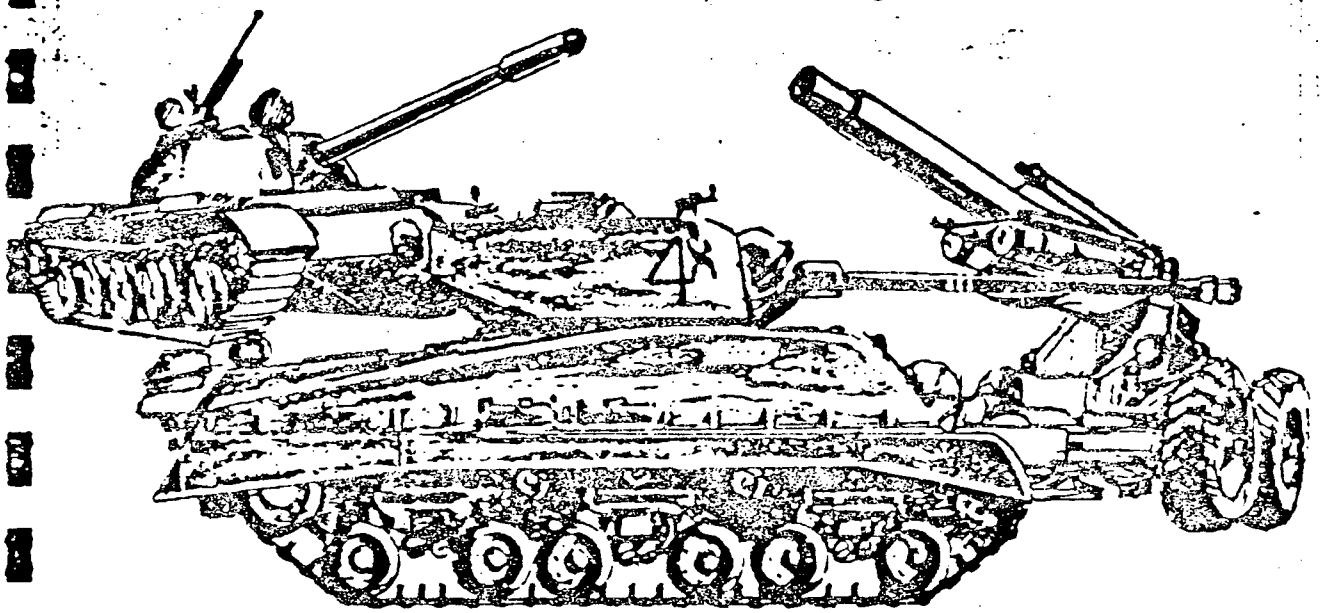
CHARACTERISTICS

Maximum operational range	17 nm
Altitude regime	45,000 to 50,000 ft
Warhead type/weight	HE/120 lbs
Guidance	Homing
Accuracy	12 ft
Missile weight	1,295 lbs
Missile length	16.5 ft
Missile diameter	14 in

REMARKS

The HAWK can be emplaced in a ready-to-fire condition in less than 23 minutes after being road transported by truck or air lifted by helicopter.

II. GROUND EQUIPMENT



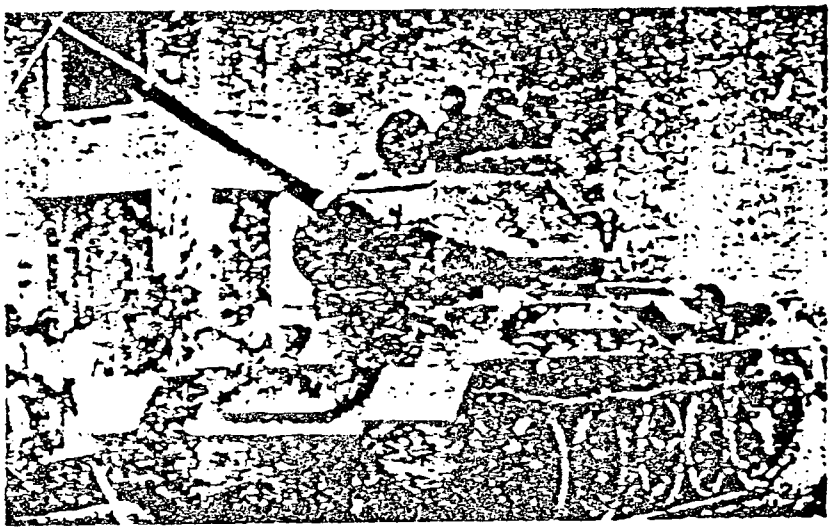
PAGE

140 Missing on Sim

BLANK

T-34 MEDIUM TANK

Egypt, Syria, Iraq, Yemen (Aden), Yemen (Sana), Algeria



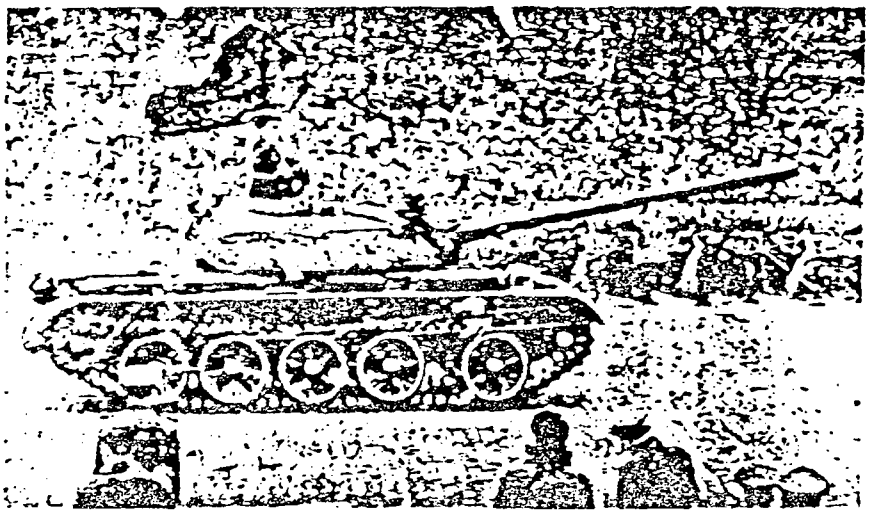
Introduced to Soviet forces in 1944. Being replaced in Arab armored forces by the T-54/55.

CHARACTERISTICS

Main armament	85mm tank gun
Weight	35 tons
Speed	35 mph
Cruising range	190 miles (main fuel)
Crew	5

T-54/55 MEDIUM TANK

Egypt, Syria, Iraq, Algeria, Sudan, Libya, Israel, Yemen (Aden)



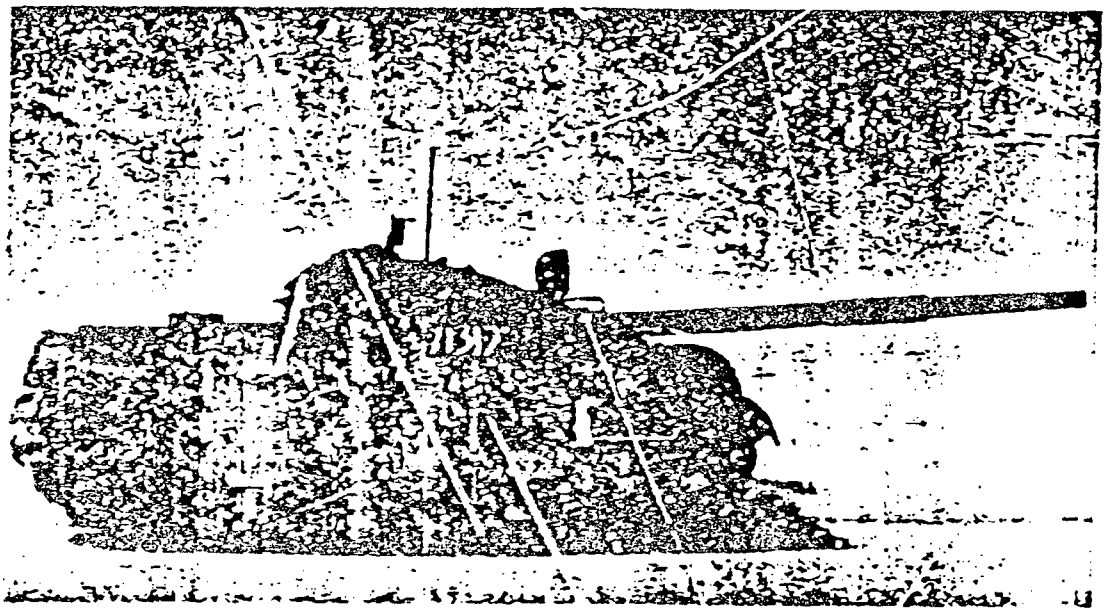
The mainstay of the Arab armored forces. The T-54 was introduced to Soviet forces in 1949, but has since been extensively modified. Comparable to the US M-48 and the British Centurion VIII tanks. The T-55 and most modern of the T-54 are equipped with infrared night viewing equipment. The Israeli T54/55s are equipped with a 105mm gun.

CHARACTERISTICS

Main armament	100mm tank gun
Weight	40 tons
Speed	30 mph
Cruising range	250 miles (main fuel)
	310 miles (w/auxiliary fuel tanks)
Crew	4

T-62 MEDIUM TANK

Egypt, Iraq, Syria, Israel, Sudan



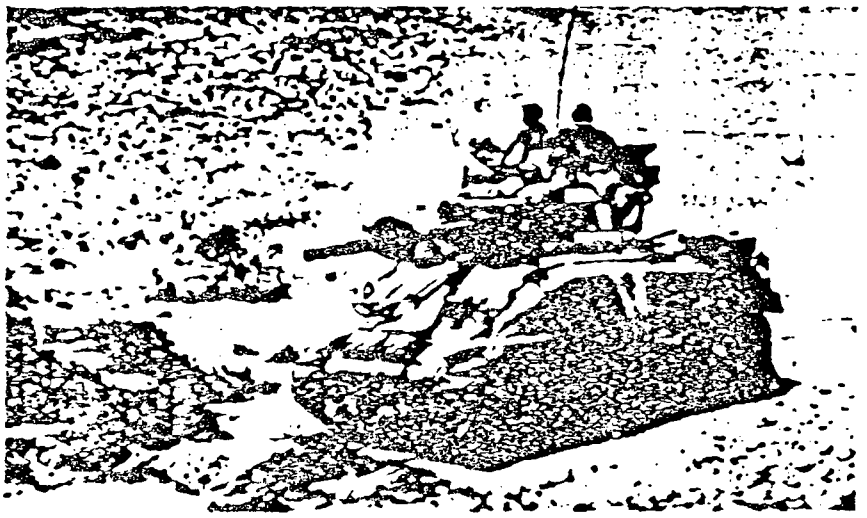
Developed from T-55. Distinguishable from T-54/55 series by spacing of road wheels, larger, more circular turret, longer hull, and 115mm smoothbore gun with bore evacuator mounted in middle of tube. Originally may have been designed to support T-55 against 105mm NATO tank guns, but has since become a main battle tank. Used by Soviet and probably Czechoslovak forces. The Israeli T-62s may have been reequipped with a 105mm gun.

CHARACTERISTICS

Main armament	115mm smoothbore gun
Weight	40.2 tons
Speed	30 mph
Cruising range	250 miles (main fuel)
	310 miles (w/auxiliary fuel tanks)
Crew	4

M-4 SHERMAN TANK

Israel



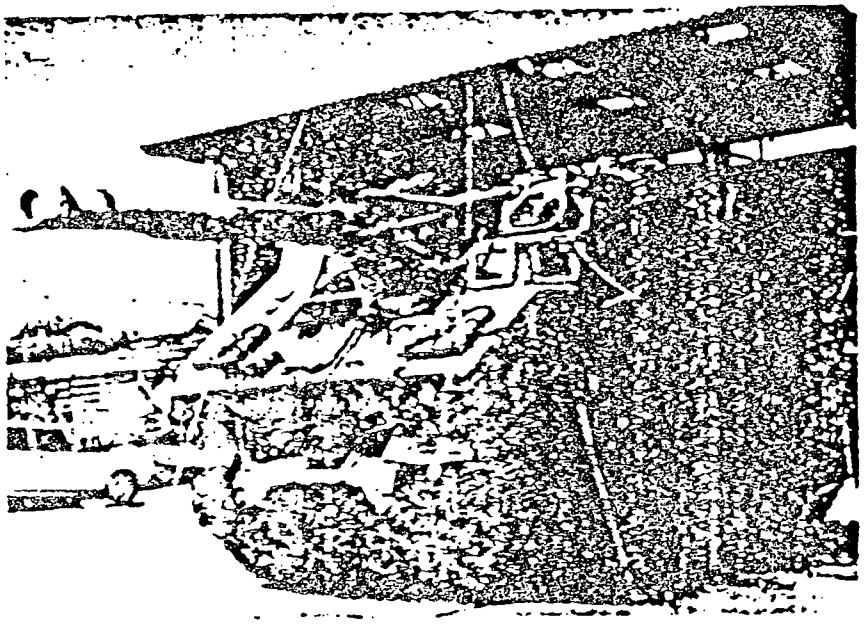
A US tank of World War II vintage, Israel has extensively modified these vehicles giving them new guns, engines, and other modernized equipment. The most extensively modified version is called the M-51 Super Sherman and mounts a French 105mm high-velocity gun. It is powered by a diesel engine of American make.

CHARACTERISTICS

Main armament	105mm gun
Weight	35 tons
Speed	25 mph
Cruising range	175-200 miles
Crew	5

155MM SP GUN, L-33

Israel



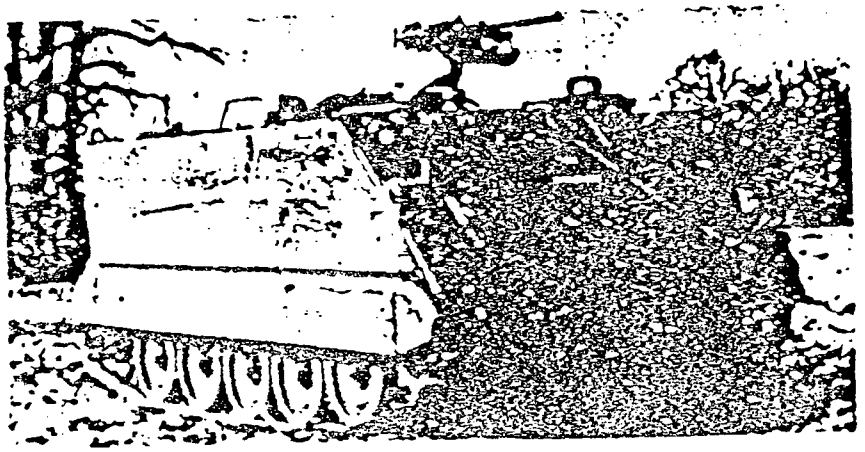
The L-33 gun howitzer is mounted on a modified Sherman tank chassis and manufactured in Israel by Soltam Company.

CHARACTERISTICS

Armament	
Range	19,000 m (12 miles)
Rate of fire	3-3 rd/minute
Vehicle	
Cruising range	160 miles
Maximum speed	25 mph
Weight	41 tons

M113A1 US ARMORED PERSONNEL CARRIER

Israel, Iraq, Saudi Arabia, Jordan, Lebanon, Libya



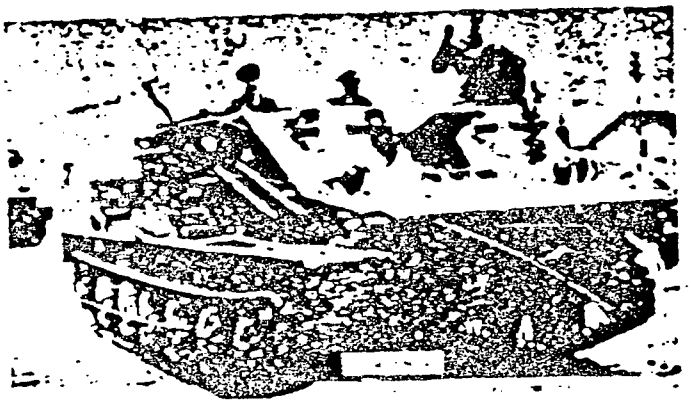
The M113 amphibious armored personnel carrier is extensively used by US and Western ground forces. It has been modified by Israel to meet the needs of the Israeli Army.

CHARACTERISTICS

Main armament	Various machine guns
Weight	12 tons
Crew/passengers	1/11
Speed land/water	40/3.5 mph
Cruising range	300 miles

BTR-50/OT-62 ARMORED PERSONNEL CARRIER (CZECH)

Egypt, Syria, Iraq, Libya, Sudan, Israel



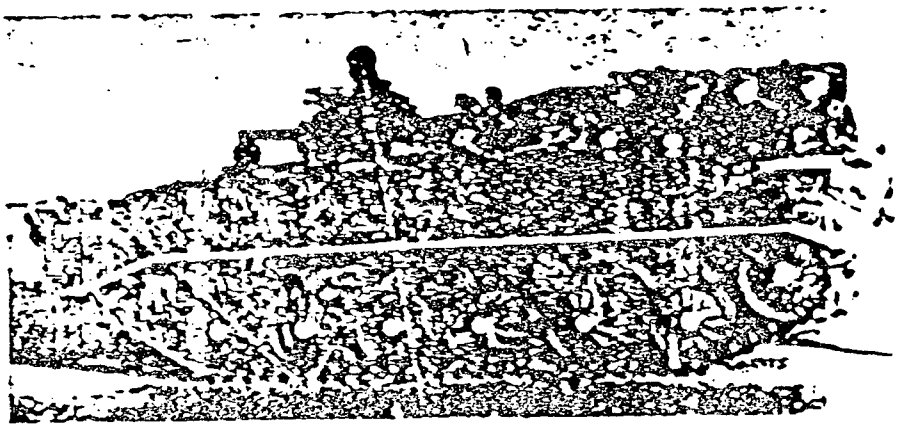
The Czechoslovak OT-62 tracked amphibious armored personnel carrier is a development from the Soviet BTR-50. Along with the BTR-50, it is standard equipment for Egyptian mechanized infantry units.

CHARACTERISTICS

Main armament	Various automatic and recoilless weapons
Weight	15 tons
Crew/passengers	2/18
Speed land/water	39/7 mph
Cruising range	280 miles

BMP INFANTRY COMBAT VEHICLE

Syria



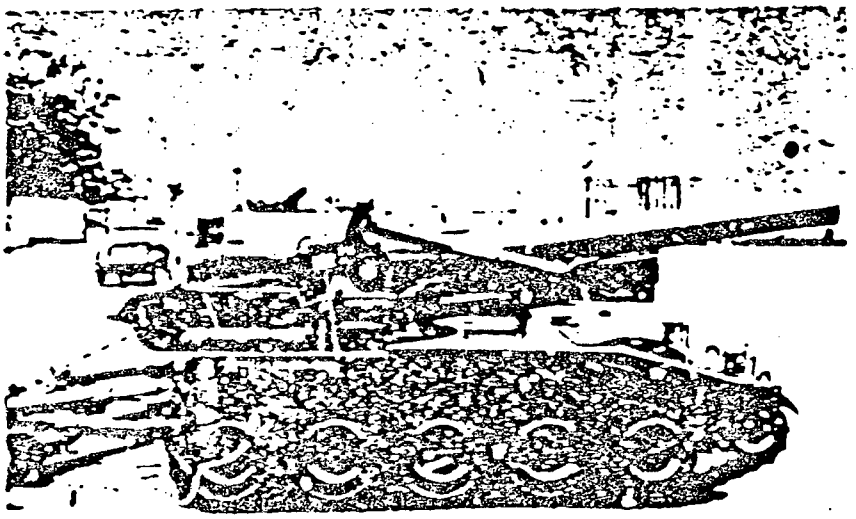
The BMP is a tracked, armored, amphibious vehicle mounting a 76mm gun and a SAGGER antitank missile. The vehicle provides greater firepower and protection than standard Soviet armored personnel carriers. Introduction of this vehicle to Syria is the first known deployment outside the Warsaw Pact.

CHARACTERISTICS

Main armament	76-mm smoothbore gun, SAGGER AT missile
Weight, combat loaded	14 short tons
Speed land/water	35 mph/4 mph
Cruising range	180 miles
Capacity crew/passengers	3/8

SECRET

8 INCH (302MM) SP HOWITZER, M-110



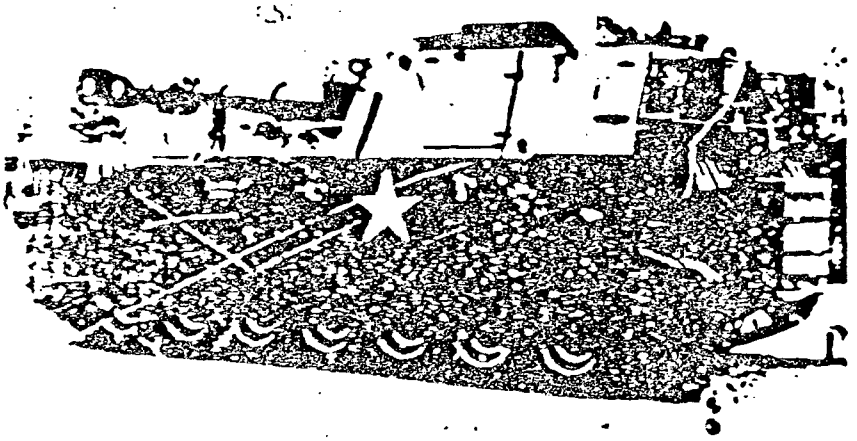
Tubes are interchangeable with those of the M-107 175mm gun.

CHARACTERISTICS

Maximum range	16,920 m
Cruising range	450 miles
Maximum speed	34.4 mph
Weight	29 tons
Weight of projectile	220 lbs
Rate of fire	1 round in 2 minutes

155MM SP HOWITZER, M109

Israel, Libya, Jordan



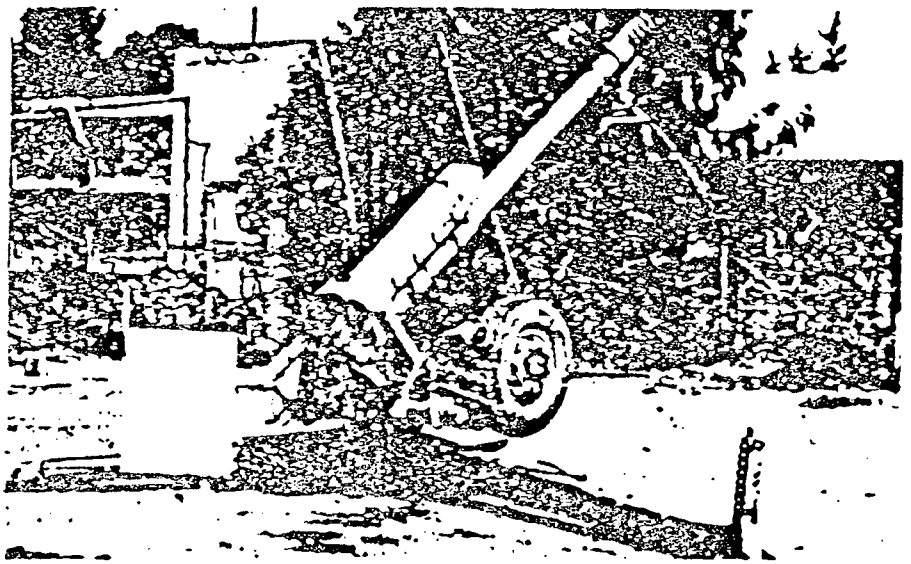
Israel has also received the M-109A1, a modification with a longer tube for extended ranges.

CHARACTERISTICS

Armament	
Maximum range	14,600 m
Weight of projectile	95 lbs
Rate of fire	45 rounds per hour
Vehicle	
Cruising range	220 miles
Maximum speed	35 mph
Weight	26 tons

122MM HOWITZER, D-30

Egypt, Israel, Libya, Lebanon, Syria



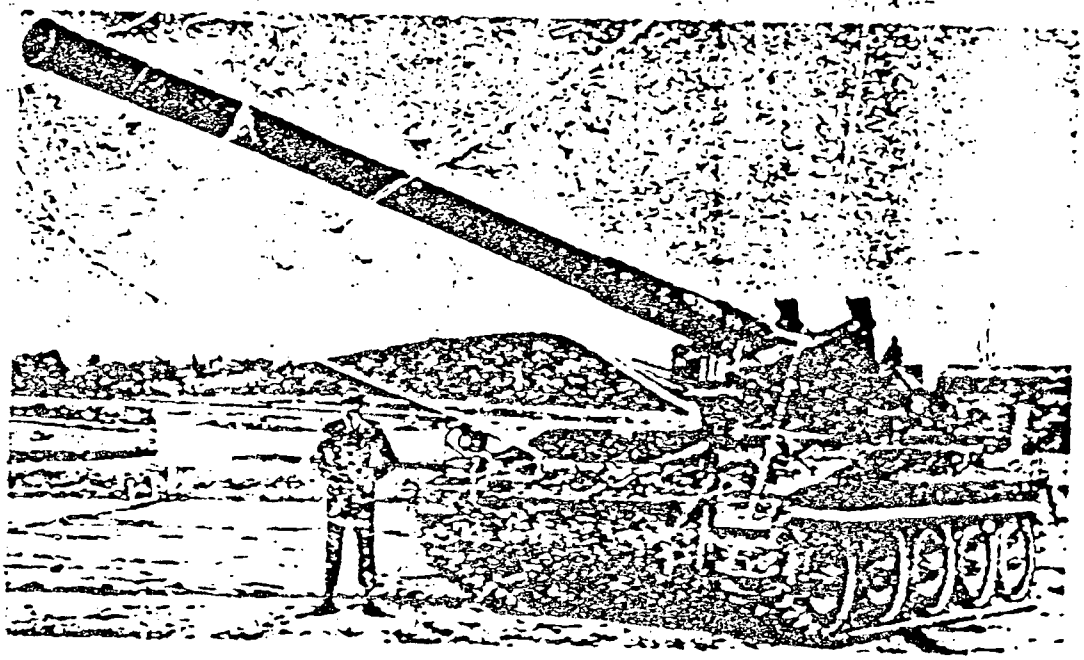
In production since 1962, this Soviet weapon has a 360 degree on-carriage traverse capability.

CHARACTERISTICS

Maximum range	15,300 m
Rate of fire (maximum)	8 rounds/minute (est)
Weight of projectile	48 lbs (21.5 kg)
Air transportable	Yes

SECRET

175MM GUN, M-107



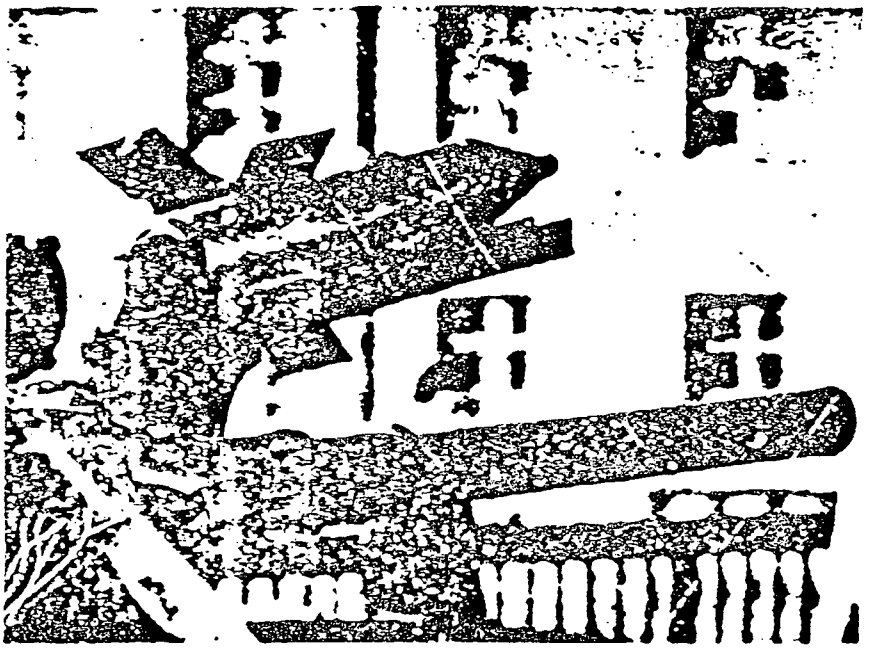
Tubes are interchangeable with those of the M-110 8 inch howitzer.

CHARACTERISTICS

Armament	
Maximum range	32,700 m
Weight of projectile	147 lbs
Rate of fire	1 round in 2 min max
Vehicle	
Weight	31 tons
Cruising range	725 km
Maximum speed	56 km/h
Crew	13

AT-3 (SAGGER) ANTITANK MISSILE

Syria, Egypt, Libya, Israel



CHARACTERISTICS

Maximum operational range	3,000 meters
Warhead type/weight	HEAT/6.9 lbs
Guidance	Wire command link
Accuracy	80% (single-shot hit probability)
Missile weight	24 lbs
Missile length	31.6 in
Missile diameter	4.3 in

TOW ANTITANK GUIDED MISSILE

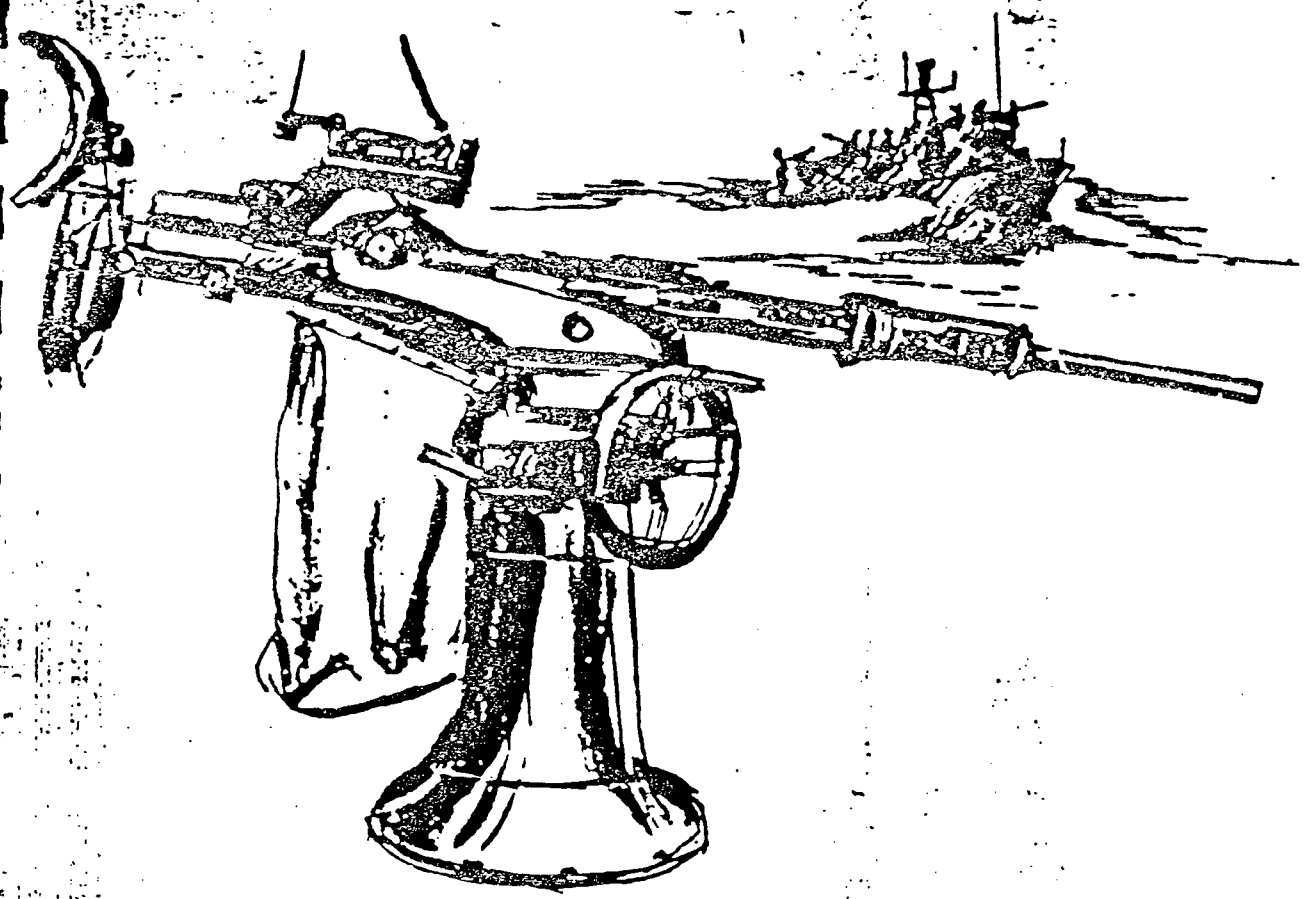
Israel, Jordan, Lebanon

TOW is a tube-launched, optically-tracked, wire-guided missile intended for use against tanks, concrete fortifications, bunkers, and other hardened targets. TOW can be fired from a ground tripod, a variety of vehicles, and from helicopters. TOW was delivered to Israel during the October 1973 war, but was not utilized during the conflict. Jordan acquired the missile system in December 1972.

CHARACTERISTICS

Type	Heavy anti-tank guided weapon system
Warhead	High-explosive shaped armor-piercing charge
System weight	102 kg including one missile (224.4 lbs)
Range	3,280.8 yds maximum 71 yds minimum
Speed	1,000 km/h

III. NAVAL EQUIPMENT



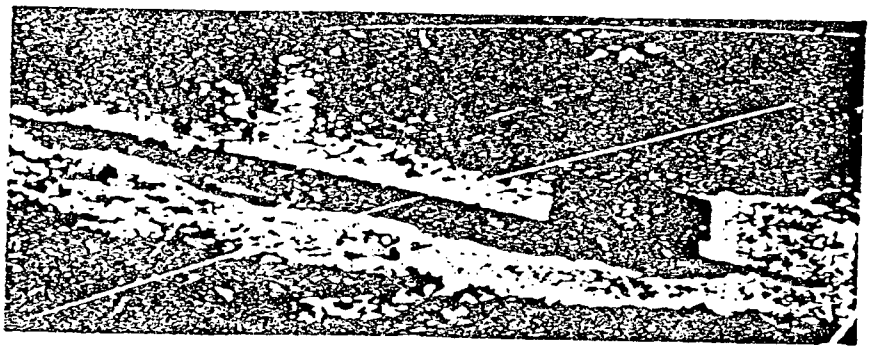
PAGE

156 (missing on film)

BLANK

R-CLASS SUBMARINE (SS)

Egypt



CHARACTERISTICS

Complement	54 (8 officers, 46 enlisted)
Length	252 ft
Beam	23 ft
Displacement	
Surfaced	1,400 tons
Submerged	1,800 tons
Propulsion	Diesel (2 screws)
Operating depth	
Normal	820 ft, maximum ... 918 ft
Collapse	1,148 ft
Submerged speed	
Maximum	12.5 kts for 1 hour
Economical	2.5 kts for 300 nm
Patrol radius	
0 days on station	2,400 nm
20 days on station	1,200 nm
Patrol endurance	40 days

ARMAMENT

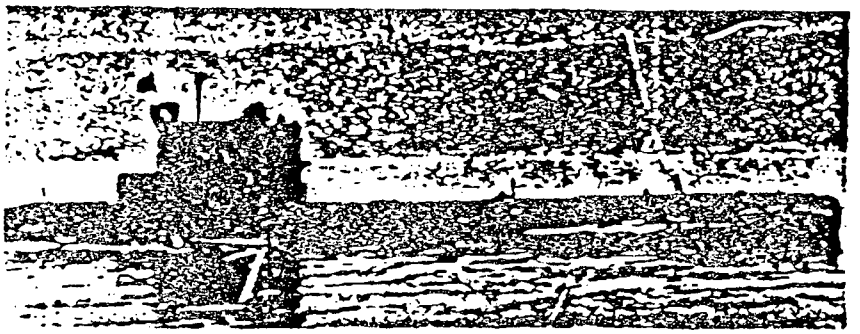
Torpedo Systems	18 torpedoes (16 forwards 2 aft)
	8 21-inch tubes (6 forwards 2 aft)
Mines	28 total in lieu of torpedoes

REMARKS

An improvement of the Soviet W-Class diesel attack submarine.

W-CLASS SUBMARINE (SS)

Egypt



CHARACTERISTICS

Complement	34 (8 officers, 46 enlisted)
Length	249 ft, 4 in
Beam	20 ft, 8 in
Displacement	
Surfaced	1,053 tons
Submerged	1,353 tons
Propulsion	Diesel (2 screws)
Operating depth	
Normal	558 ft, maximum ... 656 ft
Collapse	787 ft
Submerged speed	
Maximum	13.5 kts for 1 hour
Economical	2.5 kts for 300 nm
Patrol radius	
0 days on station	2,400 nm
20 days on station	1,200 nm
Patrol endurance	40 days

ARMAMENT

Torpedo Systems	12 torpedoes (10 forward, 2 aft) 6 21-in tubes (4 forward, 2 aft)
Mines	28 in lieu of torpedoes

REMARKS

The workhorse of the Soviet fleet until the mid-1950s.

TYPE 500-CLASS SUBMARINE (SS)

Israel

CHARACTERISTICS

Complement	27 (5 officers, 22 enlisted)
Length	159 ft
Beam	15 ft, 1 in
Displacement	
Surfaced	620 tons
Submerged	660 tons
Propulsion	Diesel (1 screw)
Operating depth	
Normal	750 ft
Collapse	1,200 ft
Submerged Speed	
Maximum	17 kts for 1.2 hours
Economical	3 kts for 130 hours

ARMAMENT

Missiles	SAAM system (6 or more Vickers BLOWPIPE SAM/SSM with an appropriate range of 1.5 nm for air defense against helicopters and vs against small surface targets).
Torpedo Systems	10 standard 21-inch or 20 U.S. Mk-37 steel torpedoes; 8 tubes forward.

REMARKS

Three small Type 500-Class patrol/attack submarines for Israel are currently under construction in the United Kingdom. Delivery of the first unit is projected for June 1976.

SKORYY-CLASS DESTROYER (DO)

Egypt

CHARACTERISTICS

Complement	216 (18 officers, 198 enlisted)
Length	397 ft 2 in (overall)
Beam	39 ft 8 in
Draft	14 ft 8 in (18 ft 5 in with sonar dome extended)
Displacement	3,181 tons (full load)
Endurance	
At economical speed	3,500 nm at 14 kts
At maximum sustained speed	940 nm at 33.5 kts

ARMAMENT

Guns	
On Damietta and El Nasser	4 130mm/50DP (twin mounted)
	4 57mm/70 AA (quad mounted)
	4 37mm/63 AA (twin mounted)
	4 25mm/80 AA (twin mounted)
On El Zafer and Suez	4 130mm/50 DP (twin mounted)
	2 85mm/52 DP (twin mounted)
	8 37mm/63 AA (twin mounted)
	6 25mm/80 AA (twin mounted)
Torpedo systems	10-21 inch torpedoes
	10-21 inch tubes
ASW	2-RBU-2,500, 16 tubed rocket launchers (on Damietta and El Nasser only);
	2-RMB-2 mortars (on EL ZAFER and SUEZ only); 2 internal rails
	51 depth charges
Mines	2 deck rails; 520-ft total length

REMARKS

These obsolete Soviet destroyers were built during the period 1949-53. Two uniquely modified units Damietta and El Nasser have moderately enhanced antisubmarine and anti-air warfare capabilities. In addition to armament listed, they are known to carry SA-7 GRAIL for air defense.

Z-CLASS (EMERGENCY) DESTROYER (DD)

Egypt

CHARACTERISTICS

Complement	221 (11 officers, 210 enlisted)
Length	362 ft 9 in (overall)
Beam	35 ft 8 in
Draft	16 ft 2 in
Displacement	2,555 tons (full load)
Endurance	
At economical speed	3,400 nm at 13 kts
At maximum sustained speed	2,800 nm at 20 kts

ARMAMENT

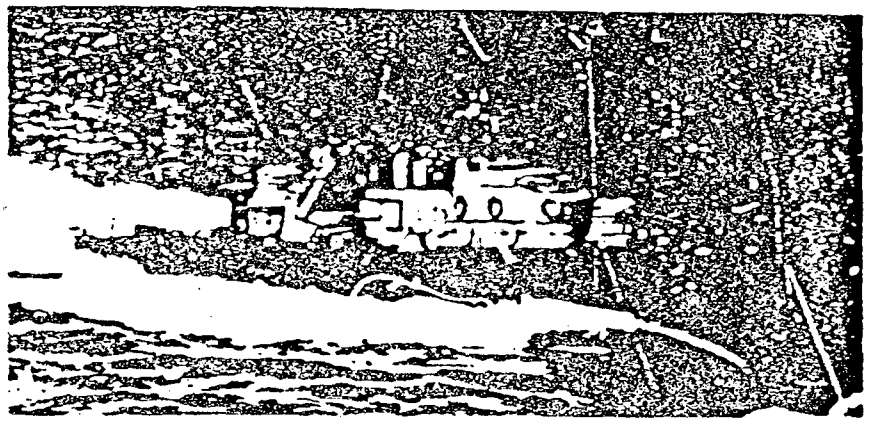
Guns	4-115mm/45 DP (single mount)
	6-40mm/60 AA (1 twin mount; 4 single mount)
Torpedo systems	8-21 in torpedoes
	8-12 in tubes (quadruple-mounted)
ASW	4 K-guns
	2 racks
	70 depth charges
Missiles	SA-7 GRAIL (probable)

REMARKS

Purchased from the UK in 1955, this unit returned to the UK for engine overhaul and electronic refitting in 1963.

SHERSHEN-CLASS FAST PATROL BOAT (PTF) AND FAST PATROL FIRE SUPPORT BOAT (PTFS)

Egypt



CHARACTERISTICS

Complement	20 to 28
Length	114 ft
Beam	22 ft
Draft	5 ft
Displacement	170 tons (full load)
Endurance	
At economical speed	1,000 nm at 18 kts
At maximum speed	460 nm at 42 kts

ARMAMENT

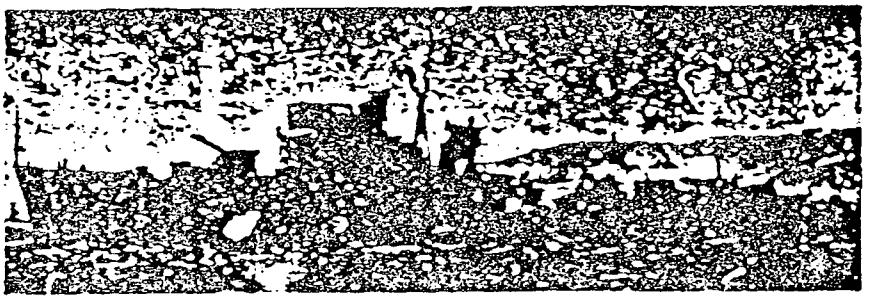
Guns	4-30mm/65 AA (twin mounted)
	8* 122mm unguided barrage-type rockets
Rocket system (PTFS units only)	2 40-tubed BM-21 type rocket launchers
Torpedo system (PTF units only)	4 21-in anti-surface ship torpedoes
	4 21-in fixed tubes
ASW	12 depth charges in 2 rail racks
Mines	2 short deck rails
Missiles	SA-7 GRAIL (some units)

REMARKS

Torpedoes have been removed from most units and replaced by two 40-tube BM-21 type rocket launchers.

HUNT-CLASS PATROL ESCORT (PF)

Egypt



CHARACTERISTICS

Complement	169 (9 officers, 160 enlisted)
Length	280 ft (overall)
Beam	29 ft
Draft	13 ft 9 in
Displacement	1,420 tons (full load)
Endurance	
At economical speed	2,200 nm at 12 kts
At maximum sustained speed	1,100 nm at 25 kts

ARMAMENT

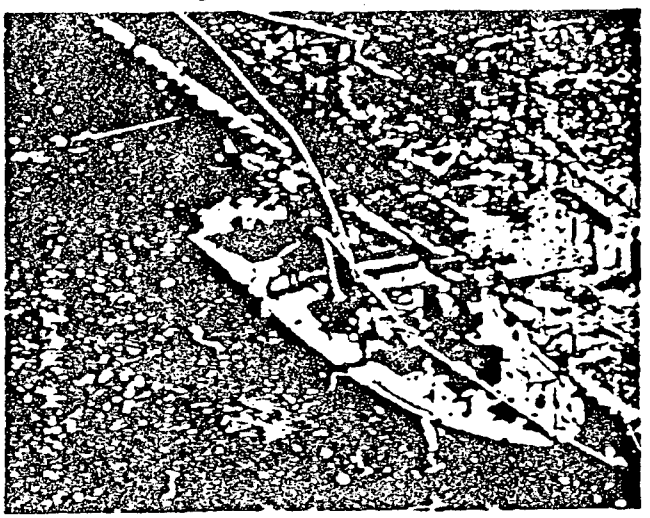
Guns	4 102mm/45 DP (twin mounted)
	2 40mm/60 AA (twin mounted)
	4 25mm/80 AA (twin mounted)
ASW	2 depth charge K-guns
	1 MK.A rack (6 d.c. on rack)
	50 depth charges
Missiles	SA-7 GRAIL (2 launcher positions for hand-held launcher tubes)

REMARKS

The Port Said was purchased from the UK in 1950 by Egypt.

P6-CLASS MOTOR TORPEDO BOAT (PT) AND FAST PATROL FIRE SUPPORT BOAT (PTFS)

Egypt, PDRY, Iraq, Syria



CHARACTERISTICS

Complement	22 (12 officers, 10 enlisted)
Length	83 ft 8 in
Beam	20 ft 4 in
Draft	3 ft 11 in (mean)
Displacement	66.5 tons (full load)
Endurance	
At economical speed	655 nm at 20 kts
At maximum sustained speed	475 nm at 39-40 kts

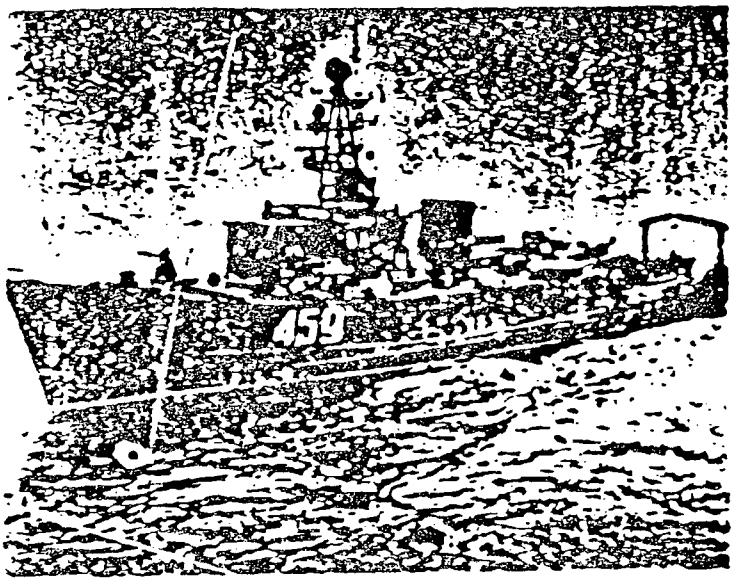
ARMAMENT

Guns	2 25mm/80 AA (twin mounted on PTFS 4 25/80 AA (twin mounted on PT
Torpedo system	2 or 4 21-in submerged ship torpedoes on PT units only
Rocket systems	40 122mm unguided barrage-type rockets; 40-tubed trainable BM-21 type rocket launchers on Egyptian Mediterranean Sea PTFS units
	12 240mm unguided barrage-type rockets; 12-tubed trainable BM-24 type rocket launchers on Egyptian Red Sea PTFS units
Missile system	SA-7 GRAIL (not on all units); Egypt only

REMARKS

Modification as a PTFS is in Egyptian Navy only; inventories of Iraq, PDRY, and Syria include PT units only.

YURKA-CLASS FLEET MINESWEEPER (MSF)



CHARACTERISTICS

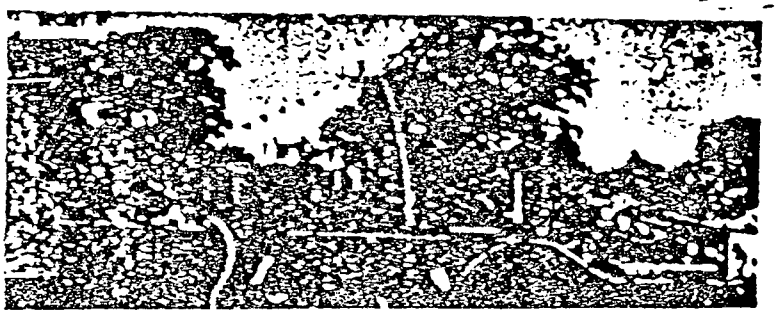
Complement	80 (10 officers, 70 enlisted)
Length	169 ft (overall)
Beam	29 ft
Draft	7 ft
Displacement	460 tons (full load)
Endurance	
At economical speed	unk.
At maximum speed	1,100 nm at 18 kts

ARMAMENT

Guns	4 30mm/65 AA (twin mounted)
Mines	85-ft mine rail length

VANYA-CLASS COASTAL MINESWEEPER

Syria



CHARACTERISTICS

Complement	30 (3 officers, 27 enlisted)
Length	132 ft (overall)
Beam	26 ft
Draft	5 ft 6 in
Displacement	250 tons (full load)
Endurance	
At economical speed	unk
At maximum speed	1,050 nm at 18 kts

ARMAMENT

Guns	2 30mm/65 AA (automatic, twin mounted, remote control)
Mines	2 deck rails; 65 ft total mine rails

REMARKS

The Soviet VANYA, a convertible minesweeper/minehunter, is the first large Soviet non-magnetic minesweeper. It first appeared in 1961.

T-43-CLASS FLEET MINESWEEPER (MSF)

Egypt, Syria, Iraq, Algeria

CHARACTERISTICS

Complement	77 (7 officers, 70 enlisted)
Length	190 ft 3 in (overall)
Beam	28 ft 8 in
Draft	7 ft 6 in
Displacement	560 tons (full load)
Endurance	
At economical speed	3,200 nm at 10 kts
At maximum speed	2,000 nm at 14 kts

ARMAMENT

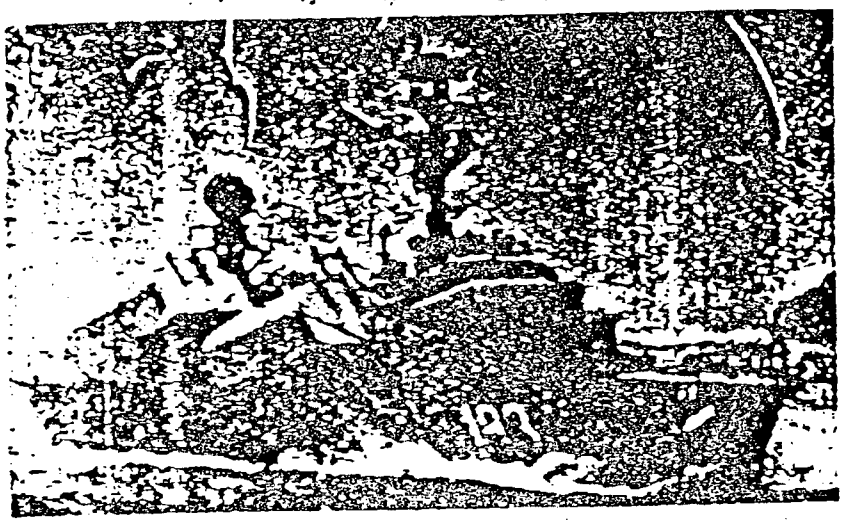
Guns	4 37mm/63AA (twin mounted)
	8 12.7mm/79 AA (twin mounted)
ASW	2 single depth charge RMB-1 mortars
Mines	2 deck rails, 10-16 mines

REMARKS

The Soviet T-43 is a mass-produced post-war design which apparently handles well in restricted waters and heavy seas. It has excellent maneuverability.

OSA-CLASS LARGE GUIDED MISSILE BOAT (PTFG)

Egypt, Algeria, Syria, Iraq



CHARACTERISTICS

Complement	25 to 30
Length	126 ft 8 in (overall)
Beam	24 ft 11 in
Draft	6 ft
Displacement	205-215 tons (full load)
Endurance	
At economical speed	1,500 nm at 14 kts
At maximum sustained speed	550 nm at 34 kts

ARMAMENT

Missiles	SA-7 GRAIL
	4 single SS-N-2a or b SSM launchers
	4 missiles (OSA I)
	4 Single SS-N-2b (OSA II, I req)
Guns	4-30mm/65 AA (twin mountings) 2-12.7mm machine guns

REMARKS

The missile launchers can neither elevate nor train. Both the "STYX" SS-N-2a and b missiles have a maximum effective range of 22 nm and are primarily antiship weapons.

DABUR-CLASS PATROL BOAT (PB)

Israel

CHARACTERISTICS

Complement	7 (1 officer, 6 enlisted)
Length	64 ft 11 in
Beam	18 ft
Draft	5 ft
Displacement	35.7 tons (full load)
Endurance	
At cruising speed	650 nm at 20 kts

ARMAMENT

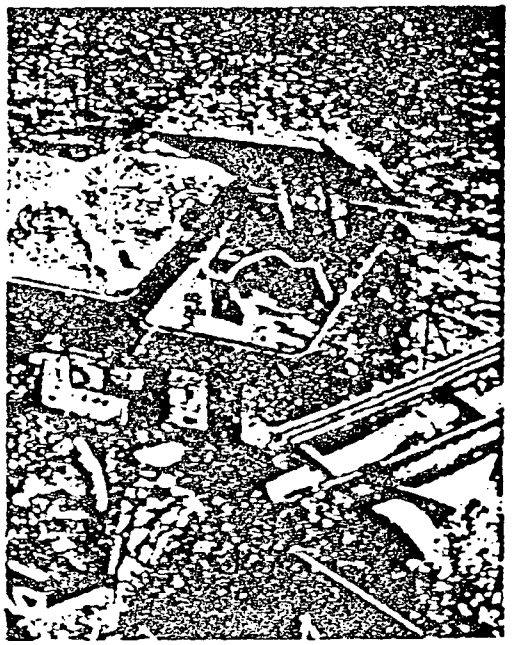
Guns	1 20mm gun and 2 .50-cal machine guns

REMARKS

Twenty-one units built in US sold to Israel and delivered between 1970 and 1974. Deployment of additional units being constructed in Israel, the first of which was launched at Eilat in March 1975, will permit longer-range missile boats to concentrate on protecting Israel's maritime communications. Units are deployed in the Mediterranean Sea area as well as the Red Sea Command.

GABRIEL SURFACE-TO-SURFACE MISSILE

Israel



The GABRIEL is an Israeli-built, low-altitude, surface-to-surface, subsonic antiship cruise missile installed in the SAAR II (5 or 8 missiles), SAAR III (8 missiles), and SAAR IV (6-8 missiles) missile boats.

CHARACTERISTICS

Operational range	
Maximum	11.5 nm
Minimum	2.7 nm
Warhead type/weight	HE/330 lbs
Guidance	Optical/radar command tracking, semi-active radar homing
Speed	0.8 Mach

GUIDANCE AND FLIGHT PROFILE

Upon launch, the GABRIEL is tracked either optically or by radar and is guided into the fire control radar beam by means of a radio command link. It continues beam riding until it acquires the target on its own semi-active seeker. After lock-on, guidance is transferred to the missile. At this point, a second GABRIEL may be launched.

SAAR IV-CLASS GUIDED MISSILE PATROL GUNBOAT (PGG)

CHARACTERISTICS

Complement	44 (5 officers, 39 enlisted)
Length	202 ft 6 in
Beam	24 ft 11 in
Draft	8 ft 2 in
Displacement	415 tons standard 440 tons full load
Endurance	
At economical speed	3,500 nm at 16 kts
At cruising speed	2,500 nm at 20 kts

ARMAMENT

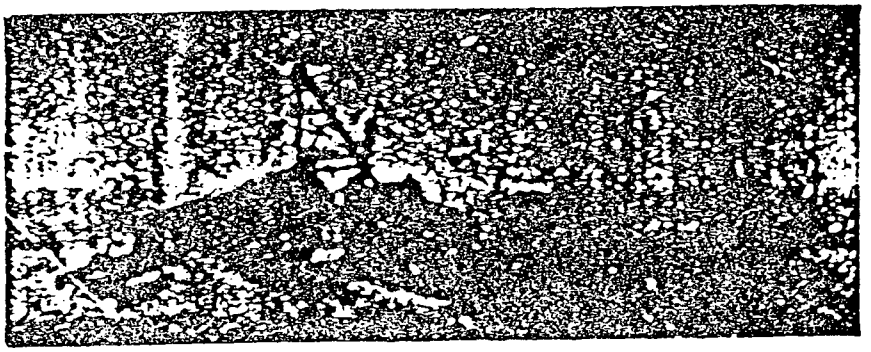
Missiles	Variables usually 6-8 GABRIEL I, ultimately 7 or 8 GABRIEL II on as many launchers.
Guns	2 76mm/62 DP guns 2 20mm/65 AA guns

REMARKS

Israeli built combatant. Four of six units under construction launched. Two transferred to Israeli Red Sea Command. Six units of this Israeli-built combatant launched and in service. Four transferred to Israeli Red Sea Command, two remain at Haifa Base Command. The first of six follow-on units, on which construction was scheduled to commence April 1975, could be launched by late 1976 or early 1977.

KOMAR-CLASS SMALL GUIDED MISSILE PATROLBOAT (PTG)

Egypt, Syria, Algeria



CHARACTERISTICS

Complement	19 (3 officers, 16 enlisted)
Length	83 ft 8 in (overall)
Beam	21 ft
Draft	5 ft 6 in
Displacement	81.5 tons (full load)
Endurance	
At maximum sustained speed	445 nm at 36 kts
At economical speed	1,300 nm at 18 kts

ARMAMENT

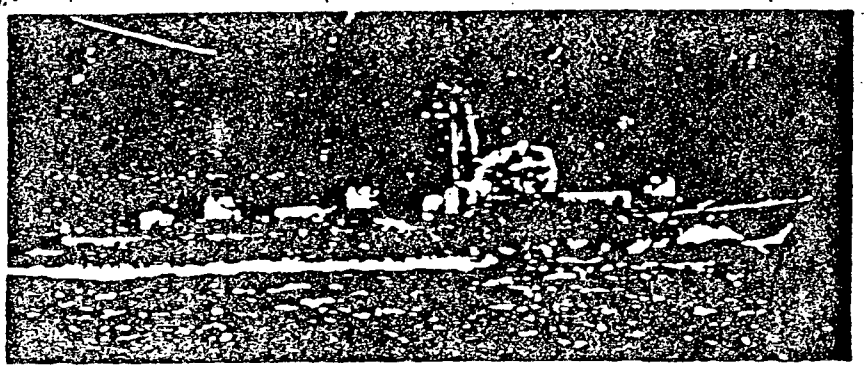
Missiles	2 single SS-N-2 SSM launchers 2 missiles
	SA-7 ORAIL
Guns	2 25mm/80 AA (twin mounted)

REMARKS

The KOMAR is a conversion of the standard P-6 Class PT boat. The SS-N-2 "STYX" missile has a maximum effective range of 22 nm and is primarily an anti-ship weapon.

SAAR II- AND III-CLASS LARGE GUIDED MISSILE BOAT (FTFG)

Israel



CHARACTERISTICS

Complement	40 (6 officers, 34 enlisted)
Length	147.08 ft (overall)
Beam	23 ft
Draft	6 ft
Displacement	220 tons standard 250 tons full load
Endurance	
At economical speed	1,600 nm at 20 kts
At cruising speed	1,000 nm at 30 kts
At maximum sustained speed	600-700 nm at 44 kts

ARMAMENT

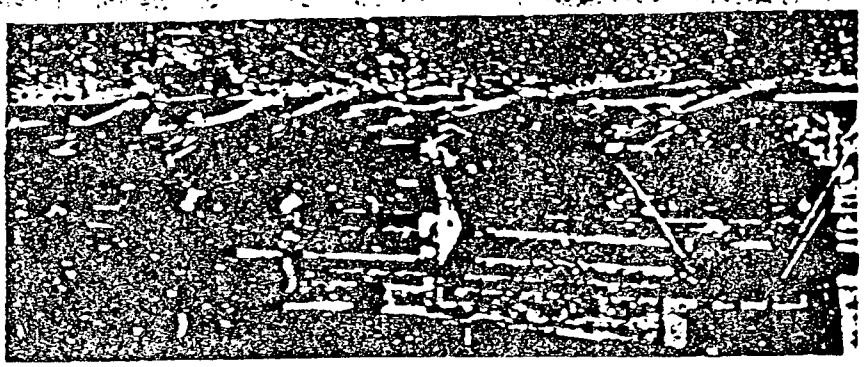
Missiles	Variable 5-8 GABRIEL I (ultimately 5 GABRIEL II) on SAAR II; 6 GABRIEL I (ultimately 6 GABRIEL II) on SAAR III
Guns	Variable 1-2 40mm/70 AA gun on SAAR II; 1-176mm/62 DP gun on SAAR III
Torpedo Systems	2 US MK-44 torpedoes on SAAR II

REMARKS

The Israeli Navy relies on fast guided missile boats rather than destroyers for surface operations. These boats, built on French hulls, have German diesel engines, Italian electronic gear and guns, and Israeli missiles. The SAAR II, which has a retractable searchlight-type sonar, is the only anti-submarine warfare capable class of Israel's guided missile boat units. Two SAAR IIs were transferred to the Israeli Red Sea Command in 1975; all SAAR IIIs are assigned to the Haifa Base Command.

STYX SURFACE-TO-SURFACE MISSILE

Egypt, Syria, Iraq



The SS-N-2 STYX is a Soviet-built, surface-to-surface, subsonic antiship cruise missile installed in the KOMAR and OSA Classes of missile boats.

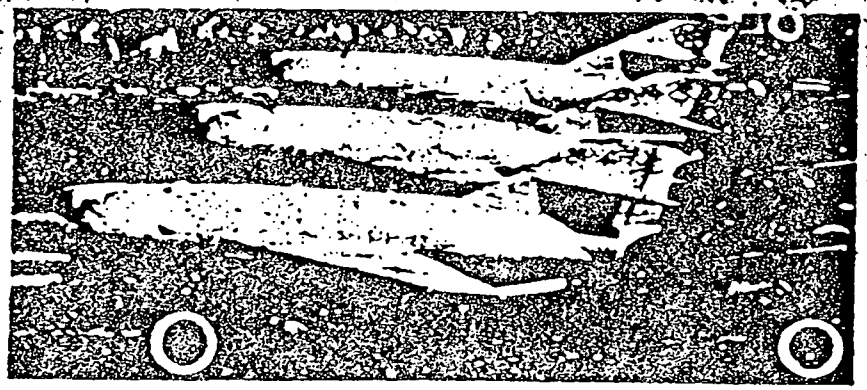
CHARACTERISTICS

Operational range:	
Maximum	25 km
Minimum	4.5 km
Warhead type/weight	HE/1,100 lbs (840 lbs of HE)
Guidance	Preset autopilot with active homing radar (see below)
Speed	0.9 Mach

GUIDANCE AND FLIGHT PROFILE

Before launching a STYX, the OSA or KOMAR boat must maintain a constant heading for 2 to 3 minutes to stabilize the missile gyro reference system. Upon launch, the missile flies at one of three pre-selected altitudes between 300 and 1,000 feet. Guidance during the initial phase of its flight is provided by a pre-programmed autopilot. At a pre-selected time of flight, the missile's radar is activated and begins search. Upon acquisition of the target, the missile commences a gradual descent to impact. Since the STYX boat measures allow launch, salvos of 2 to 4 missiles can be fired.

SSC-2B MISSILE, SAMLET



The SAMLET is a surface-to-surface version of the KEY-WHEEL air-to-surface cruise missile carried by the TU-16 BADGER aircraft. Supplied by the Soviet Union, it is deployed in the Alexandria, Egypt, region to provide coastal defence.

CHARACTERISTICS

Maximum system range	50 nm
Warhead type/weight	HE/2,200 lbs
Cruising speed	0.9 Mach*
Altitude	Below 5,000 ft
Guidance	Autopilot with mid-course beamrider and semiactive radar terminal homing

*Provided by Jane's.

PAGE

176 (MISSING ON FILM)

BLANK

REFERENCES

I. Military Intelligence Summary (MIS), Section IV, Middle East and North Africa, (S/NFD), published semiannually.

II. Free World Air Order of Battle (FWAOB), Volume II, Middle East and Africa, (S/NFD), published semiannually.

III. Defense Intelligence Order of Battle System—Naval Order of Battle (DIOBS-NOB), Volume VI, Middle East and Africa, (S/NFD), published semiannually.

IV. Order of Battle Summaries, Foreign Ground Forces, published annually.

V. Air Forces Intelligence Studies—Egypt, Israel, Syria, and Iraq published annually.

VI. Naval Forces Intelligence Studies—Israel and Egypt, published annually.

VII. Defense Intelligence Appraised Estimated Inventory of Selected Armaments and Forces Arab Countries/Israel/Iran (Spread Sheet), (S/NFD/Sensitive), published monthly.

VIII. National Intelligence Analytical Memorandum (NIAM 35/36-8-73, 13 June 1973) Arab-Israeli Hostilities.

IX. The 1973 Arab-Israeli War: Overview and Analysis of the Conflict (SR IR 75, July 1975).